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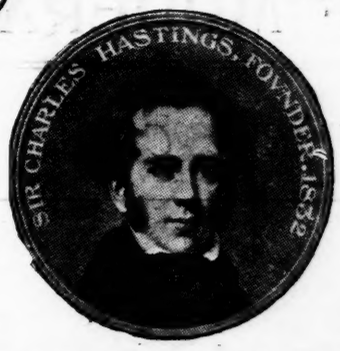

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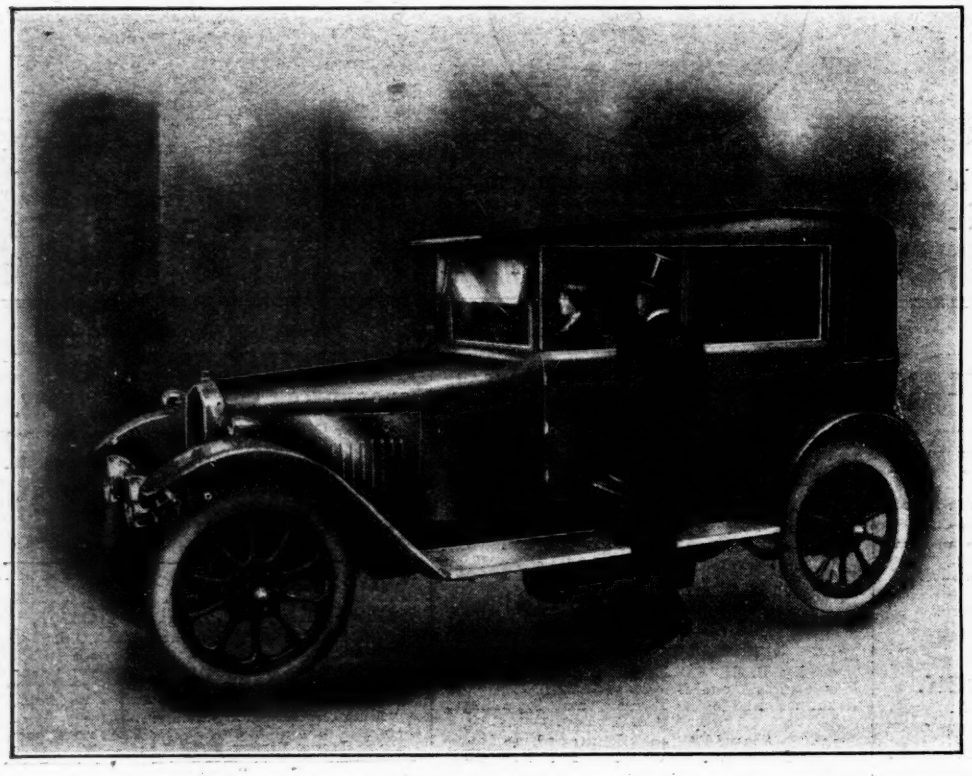

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An Address
ON
THE DIAGNOSIS OF HYSTERIA.*

BY
HENRY HEAD, M.D., F.R.S.,
CONSULTING PHYSICIAN, LONDON HOSPITAL.

OUR knowledge of the nature and causes of functional nervous disorders has been revolutionized during the last fifteen years, and more recently the prevalence of the war neuroses has aroused a widespread interest in morbid psychology. Rival theorists contend for the truth of dogmas they have elevated to the solemn position of a religious cult. Moreover, the treatment of the functional neuroses has become a special branch of medical practice carried out by men who see comparatively little of organic disease. At the same time the general physician is scarcely familiar with the psychical aspect of medicine; he and his colleague, the surgeon, rarely consider how large a part the mind plays even in the symptoms of gross structural disease.

But there is one series of phenomena where a knowledge of morbid psychology is of profound importance to every medical practitioner; for no branch of medicine is free from the puzzling manifestations of hysteria. Moreover, during the intensive study of the ultimate causes underlying the functional neuroses, in which group hysteria plays so important a part, many points of diagnostic importance are liable to be forgotten. Much of this knowledge is traditional and cannot be found in textbooks; and yet it may become at any moment of fundamental importance to every medical practitioner, however small his interest in the neuropsychoses. For hysteria is mainly associated with abnormal physical conditions. In fact, it might be defined as a morbid mental state, accompanied by physical manifestations and certain forms of aberrant conduct.

These physical signs are as definite and specific as those of any other disease. Hysteria is sometimes said to "imitate" organic affections; but this is a highly misleading statement. The mimicry can only deceive an observer ignorant of the signs of hysteria or content with perfunctory examination.

For the diagnosis of hysteria it is necessary, not only that there should be no demonstrable organic cause for the symptoms, but that the positive signs of hysteria should be present. It is to these positive signs I am anxious to call your attention; but nothing could be duller than a category of the protean conditions which may accompany this disorder. I shall therefore enumerate and describe them solely in order to lay bare to you the means by which they can be detected and the state of mind which underlies their appearance.

Freud described hysteria as a "conversion neurosis." This term has been widely adopted, and signifies that the conflict in the patient's mind is solved by some aberrant reaction, which removes him from the situation of doubt and anxiety. If a soldier, unable any longer to face the horrors of the front, became paralysed in both legs, he was automatically relieved from the necessity of facing danger without the obloquy of running away.

Physical Signs of Hysteria.

Disorders of speech were amongst the commonest hysterical affections due to the strain of war. Sometimes the patient became completely mute, although he wrote voluble accounts of his condition and understood perfectly what was said to him. This is an example of that peculiar disintegration of some highly developed function so characteristic of hysteria. It is not the physiological mechanics of language that are affected, but the patient is imbued firmly with the idea that he cannot speak; this is no reason, however, from a conceptual point of view, why he should not be able to comprehend what is said to him, to read, or to write—a condition impossible from organic disease. Although his voice might be reduced to a whisper, he could cough loudly; for from a psychological point of view the resonant sound of a cough has nothing to do with articulated speech. Moreover, on examining the larynx the cords are seen to remain widely apart on phonation, although with a cough they close normally.

The so-called "hysterical stammer," more accurately termed a "stutter," exemplifies another aspect of this disorder. Unnecessary syllables are interjected into the stream of speech; the patient is not held up like a true stammerer by difficulty in reproducing some word beginning with a consonant or labial, but his speech is interrupted by a series of perfectly articulated sounds.

This illustrates the tendency of hysterical phenomena to consist of a positive disorder of movement, which is so clearly demonstrable in the various forms of tremor. Rhythmic unsteadiness, due to structural disease or want of neural control, is shown by defective power to maintain a certain posture steadily. An hysterical tremor, on the other hand, is a positive repeated movement of a high voluntary type, varying in rapidity. It ceases if the patient can be persuaded unwittingly to perform some other movement with the same limb. Thus, a soldier with a severe tremor of the right hand and arm was able to play the banjo perfectly, and I used this musical aptitude for effecting his cure.

Many are the forms of spasm which are liable to appear in hysteria, but they all depend essentially on the assumption of a certain posture. Most of them are local, and affect one limb or even a single joint. Occasionally, both arm and leg may be contracted on the same side of the body, and if the patient does not move them to command, the condition may be mistaken for a hemiplegia. Any attempt to break down a spasm of this kind, to open the closed hand, or to straighten the flexed knee, meets with intense resistance; but in many instances it is equally difficult to alter the position even in the direction imposed by the spasm. If the shoulder and neck are contracted, resistance may be experienced not only in pushing the head towards the normal shoulder, but also in moving it farther in the direction of the affected side.

The so-called paralysis of the tongue is another good example of this rule. On protrusion it deviates, say, to the right; with organic disease this would signify loss of power in the muscles of the right half, and the tongue would in consequence be withdrawn to the left. If the deviation is due to hysteria and the tongue is thrust out to the right, this position is maintained, even when it is returned to the mouth.

Sometimes movement is positively inhibited; the patient says, "I cannot move my leg," and it hangs inert, or is dragged behind him like a log. If, however, he is laid upon the bed and asked to kick his leg into the air, you will be able to determine, by placing your hand under his heel, that it is pressed strongly into the bed. Turn him over on to his face and ask him to bend his leg so as to raise it in the air; you will now find that the toe is strongly thrust downwards. On each occasion he responded to your command by an exactly opposite movement. In the milder examples of loss of power or inability to stand on one leg, the nature of the affection is revealed by the following trick. If it has been determined to the satisfaction of the patient that he cannot support his weight on the right foot, tell him you are quite satisfied that the right is affected, but that the left is his "good leg." When he is standing steadily, give a sudden command, "Kick out your good leg"; this he will do, although it necessitates balancing himself upon the affected foot. On the other hand, follow this quickly with the order, "Kick out your bad leg," and he will fall, although he is supported on the normal limb. Sometimes the patient is completely unable to stand or to walk, but judicious examination demonstrates that he can make all the necessary movements when lying on his back.

Inco-ordination of movement, apparently due to lack of recognition of the posture of the affected limb, is a not uncommon manifestation in hysteria; but it usually differs fundamentally from ataxy of organic origin. Suppose a cerebral lesion has made it impossible to touch the nose with the forefinger of the right hand, when the eyes are closed, you will find that the normal (left) hand has, as a rule, greater difficulty in finding the tip of the affected forefinger than vice versa; for it is the position of the right hand which is unknown, and it is this which leads to the difficulty. The defect is the opposite in hysteria; for since no good action can be carried out by the affected part, the right (affected) forefinger makes wild attempts to find the left hand, whereas the normal hand is rapidly brought correctly into contact with the part whose position is nominally unknown.

Again, when the patient attempts to touch his nose with the forefinger, it may deviate widely from the mark and always pass to the same side of the head; but if the head is pushed over in that direction, the finger will now deviate still further, as the goal is brought closer to the position usually reached by the hand.

* Delivered before the London Hospital Medical Society, March 2nd, 1922.

Not infrequently, if he is allowed to stand comfortably and the eyes are closed to command, the patient tends to fall; but if he is placed in exactly the same position and is told you are about to test his pupils, you can place your hands over both his eyes without the least sign of instability. He knows he cannot stand with his eyes closed, but this has nothing to do intellectually with testing his pupils.

No phenomena of hysteria are more instructive and at the same time more misleading than its sensory manifestations; pain, or rather oversensitiveness to manipulation, is extremely common. A weight falls upon the foot of a workman, and from that time he complains of pain and tenderness. The distribution is not that of any peripheral nerve or posterior root, and can only be explained by mental considerations. A similar law governs the form assumed by hysterical anaesthesias. It is undoubtedly true that loss of sensation of this character is mainly due to suggestion on the part of the medical man; but once this has occurred the form it assumes is significant. It occupies the foot below the ankle, the hand bounded by the wrist, or it may be limited by a line round the elbow, the shoulder, or the knee. The belly may be affected without the back; the face exclusive of the cornea and the lips. Moreover, the outside of the cheek may be analgesic, whereas the sensation of the buccal mucous membrane is intact. It is possible for a physician by examination to produce other forms of sensory loss; but it seems to me that the usual distribution is due to the following reasons. When I say to you, "hand," those of you who visualize strongly will see a picture corresponding to all the parts below the wrist; in the same way, if I say "foot," there is a tendency to call up a picture of all below the ankle. If I say "belly," you see the abdomen between the pubes and the ensiform with the navel in the centre; but, anatomically and physiologically, the belly is nothing but the anterior half of a column of which the back and loins form the posterior portion. When therefore sensation is disturbed from structural or physiological causes the distribution of the abnormal areas extends both in front and behind. On the contrary all forms of disordered sensation of mental origin tend to affect the front without the back, or the spine without the chest and lateral parts of the trunk; for this is the way we normally think of the surface of the body, and in hysteria we are dealing with paralysis by idea.

For this reason the tender spots, which may be present on the surface of the body, tend to react in a peculiar manner. Let us imagine that the patient has a tender area in the right iliac fossa, simulating that caused by the appendix: he will complain that the point of a pin dragged gently across the skin causes exquisite pain. So far there is nothing to show that the condition is not due to an organic cause. Having once established the extent of the area within which the patient complains of tenderness stimulate him over this part with cotton-wool and he will not uncommonly react excessively, although a touch with cotton-wool is not potentially painful. It is the position of the tender spot, and not the physiological nature of the stimulus, which dominates his consciousness.

Sometimes the distribution of the sensory disturbance may be determined originally by an organic lesion. I saw a sergeant in whom a bullet had passed through the front of the ulnar aspect of the forearm. An hysterical analgesia extended from the site of this wound, and occupied one half of the palm and the little and ring fingers. Behind, it not only affected the ulnar half of the hand and forearm, but ran up to the elbow-joint; for here there was no transverse wound, as on the anterior surface, to limit its extent.

The use of a large tuning-fork will not infrequently dispel the idea that a loss of sensation, apparently following an ulnar distribution, is due to the destruction of the nerve. Place the strongly vibrating fork on the anaesthetic area of the palm and the patient will deny that he can appreciate it until it passes on to normal parts; and yet the vibration, widely conducted on the palm, is evident to the hand of the observer far outside the boundaries of the loss of sensation.

Limitation of the field of vision at one time occupied an important place amongst the signs of hysteria. But, since Babinski's statement that it is due to suggestion on the part of the examining physician, it has fallen into undeserved disrepute. For the very fact that a condition of this kind can be manufactured in a patient is striking evidence of the nature of the disorder from which he suffers. The normal field of vision consists of a central portion where colours can be accurately distinguished; outside this lies a zone of considerable extent, which is colour blind, although all shades from white to black are clearly visible. Here coloured objects are appreciated according to their luminosity and not their chromatic value. Green is said to be "light" or "whitish," red "dark" or "greyish"; this response is heightened by mounting the green object on a black background and the red on a white square twice its size.

During the earliest stages of optic atrophy, for instance in disseminated sclerosis, vision for red and green is frequently diminished and the colour field may be reduced to minute proportions. But outside it still lies a large area of retina, over which these colours are appreciated as "light" or "dark" and the form of the test objects is clearly recognized. In hysteria, on the other hand, they are said to be coloured or are not seen at all, whatever may be the limits of the visual field. This is ample proof that the defect is of mental origin, and experience shows that it is usually suggested by the observer or by his methods of examination. For separate appreciation of luminosity and colour is a physiological phenomenon of which, like the blind spot, we are normally unconscious. But, over a field restricted in consequence of psychical causes, we either recognize or do not recognize an object; vision is not broken up in terms of physiological function, but follows strictly mental lines.

Diagnostically, the visceral manifestations are by far the most misleading. Occasionally the intestines become inflated with gas and simulate a tumour of the abdomen; but such a swelling is resonant to percussion, it does not shift from side to side according to the position of the patient, and the physical signs alter if the head is lifted from the pillow so as to tighten the rectus. If you are in doubt a whiff of chloroform will settle the matter.

Retention of urine sometimes forms a troublesome complication, for it is not wise for you to pass a catheter. Let this operation be performed by a careful and judicious nurse. It is well to remember that incontinence of urine never occurs in uncomplicated hysteria.

Seizures and Fugues.

I have left till the last consideration of the seizures and convulsions which may occur in hysteria, because, to an observer on the spot, they offer fewer difficulties in diagnosis. They are essentially emotional outbursts; the patient makes violent movements, arches her body, and may even simulate tetanus, but the muscles of the abdomen and back are never contracted at the same moment as in this disease. I once was called to a servant maid who had scratched the base of her thumb. Her jaws were tightly clenched, and every few minutes she was thrown into violent convulsions, in which her back was strongly arched. She had already received a dose of antitetanus serum, but observation showed that the movements in no way resembled those of tetanus. Moreover, subsequent investigation elicited that she had been seduced under promise of marriage by a chauffeur, who had embezzled money and fled the country. In her state of anxiety a word by a fellow servant as to the probability that a scratch between the thumb and index finger would produce lockjaw was sufficient to precipitate the attack.

Not uncommonly the patient falls into a dissociated mental state; memory of the occurrences during the seizure may be absent during the waking condition, and consciousness is therefore supposed to have been lost. Such attacks of alternate consciousness are frequently associated with otherwise inexplicable conduct and during the war were sometimes accompanied by extreme violence. This brings us to those remarkable seizures known as "fugues."

A lieutenant in the R.F.A. was wounded in France, but the injury was not severe. Whilst in hospital in England he obtained leave to spend a week-end with his parents. On Sunday afternoon he started on his motor bicycle, intending to return to hospital, and disappeared, but was found several weeks later on a farm where he had worked as a pupil before joining the army. He arrived there on Monday morning, occupied his old quarters, and set to work at once. When the surprised farmer asked him how long he intended to stop he said he had been discharged from the army. He subsequently confessed to me that during the ride he began to think with pleasure of his life on the farm; from that time he had only a hazy recollection of what happened, until he was discovered by his brother three weeks later.

These "fugues" are commonly attributed to amnesia, and the patient is said to remember nothing that happened. This is true in certain instances; but I am convinced that, during some of these inexplicable disappearances, memory is not completely lost, and sometimes a fairly coherent account can be obtained from the patient of how he spent his time. He loses all appreciation of the cogency of the reasons against the line of conduct he adopts, and his personality may have

undergone a subtle transformation. But he can often remember the desires which lay behind his mental conflict, and give some account of his disappearance. Such fantasy building was responsible for many aberrations of conduct in young officers during the war, and lies at the bottom of those curious cases, met with in civilian life, where a woman for a time leads a purely fantastic existence.

Mental Causes of these Physical Manifestations.

When we attempt to express these morbid phenomena in general terms we are struck by their positive nature. There is nothing negative about the manifestations of hysteria; even the anaesthesia is due to refusal to accept impressions, which otherwise run their normal physiological course. Amongst the disorders of motion, the tremor is due to actively repeated movements, rather than to failure of static tone; spasm is the assumption of a definite posture and not the reflex overactivity of some lower function; the so-called hysterical paralysis is the effect of direct inhibition, an active expression of the conviction in the patient's mind—"I cannot move."

Closer analysis of these positive phenomena shows that they depend on three mental factors—proneness to autosuggestion, a negative attitude to orders from without, and a tendency to the state known as "dissociation." There has been much dispute concerning the extent to which these patients are suggestible; hypnosis frequently fails lamentably to remove their disabilities, in spite of the ease with which a suggestion is accepted that falls in with their morbid state of mind. Many hysterical joint affections start in some remark by the medical attendant, and the nature of the anaesthesia, or the form assumed by the fields of vision, are all examples of antitherapeutic suggestion. Associated with a ready acceptance of some morbid idea by the hysteric is an instinctive opposition to external commands. Place your hand lightly around the arm, so that the fingers cover the biceps and the thumb is in contact with the triceps; tell the patient to bend his arm, and the first muscles to contract are the extensors. Give the opposite order, and instantly the biceps can be felt to tighten. This "negativistic" attitude, as it is called, permeates the whole mental activity of the hysteric. Thirdly, there is a profound tendency to what is called "dissociation." This expression was employed by Pierre Janet to indicate a state in which some aspect of mental activity had become split off from the conscious functions of the mind and lived, as it were, an isolated life. He used the conception to explain not only the lapses of memory, fugues, and dual personality, but also the anaesthesias and hysterical paralyses. Now, there is no doubt that we possess the power of refusing to accept impressions, even under normal conditions. Experts at the direct method of ophthalmoscopic examination keep both eyes open; but the one which is not applied to the back of the mirror is, for the time being, psychically blind. In the same way, when shooting, both eyes remain open, but alignment on the bird is made with the right alone. The hysteric, like the hypnotized person, has this power in a still higher degree. He can shut off all impressions arising from one limb so that they do not disturb consciousness; and yet his reflexes are normal and, with hysterical blindness, he can avoid obstacles in the room. Automatic acts are performed with ease, though voluntary responses are inhibited or obstructed.

If these are the factors in hysteria, how is this remarkable state of mind induced? It is essentially an irrational answer to a conflict. A young woman, who is a candidate for an examination which she feels is too difficult for her powers, can solve the problem illegitimately by spasm of the right hand. A soldier suffering from fear, knowing he cannot run away, finds a perfect and honourable solution in hysterical paraplegia.

But in many cases the underlying cause is far more subtle. Many of you know the evil effects of not answering promptly a disagreeable letter. Perhaps it remains unopened in your pocket, and all day you feel that some unknown misfortune is about to befall you—you are "off your game," you are certain that you are in for influenza, or at least for a bad cold. All these ills are an expression of the unresolved emotion evoked by that unanswered letter.

This is an example of the evil effects of repression, or an attempt to shirk some unpleasant experience by expelling it from consciousness. But fortunately we can sometimes forget even disagreeable facts without harm. In order that repression may produce evil consequences the idea, charged with emotion, must have been thrust out of consciousness; the patient dislikes it with such intensity that he refuses to face it squarely. The emotion accompanying such an idea may then appear in some substituted form, such as vomiting, headache, or paralysis. If, for example, a patient expresses to you a moral repugnance to taking food, it is well to consider whether her statement does not hide some real cause for moral doubt and anxiety.

Fear is the most potent reason for repression. All children and animals experience fear; this is suppressed in the adult, who, under normal conditions of civilized life, experiences anxiety only. But deep down lies fear, ready to spring into being when inhibition is removed—as, for example, during sleep. Now in civil life fear of disease is extremely frequent. Some are so subject to this form that they dread each disease in turn, as it becomes the fashionable centre of discussion in the popular press. Such fears, dismissed from consciousness without reasonable consideration, are liable to work havoc in the underworld of our minds.

Some relationships are by their very nature liable to be highly charged with emotion. "No man," Bacon said, "can speak to his child but as a father"; and parental fear is the basis of many anxieties. Conversely, however, adoration of a son for his mother, or a daughter for her father, underlies many of the difficulties which may arise subsequently in marriage.

Marriage without physical affection is an impossible human relation; one of the simplest methods of escaping from such difficulties is the development of a physical illness. In the present day many women embark heedlessly on associations that are bound to lead to emotional trouble; the so-called "friendship" with a married man, whose wife "does not understand him," is a state of unstable equilibrium. Fears in women of marital relations, or of pregnancy, can usually be traced back to some terrifying experience in childhood or adolescence.

A very important element in the production of a conversion hysteria is a want of capacity to face failure. The schoolboy cribs to save himself from disgrace; the hysteric loads the dice to produce an effect that would have been impossible by honest toil. Hence the frequency of direct malingering—as, for example, the production of factitious sores. To be interesting is to be endowed with power; a paralysed girl with a charming and modest manner can attract universal attention from the simpler sex.

Treatment.

I cannot close this discourse without saying a few words about treatment. If possible, the patient should be removed from the usual surroundings and new influences brought to bear. An attempt should be made to switch the dissociated part into the continuity of the patient's mental life. Every form of persuasion should be exercised to convince the patient that he is able to carry out the action he is convinced to be impossible. Never bully him or accuse him of dishonesty. No one is a greater failure than the medical officer who wishes all hysterics could be shot at dawn. On the other hand, the firm diplomatist with subtle and demonstrable reasons why the patient can stand, walk, or feel, often produces miraculous cures. But it must never be forgotten that in a large number of cases, especially in civil life, removal of hysterical symptoms is only a prelude to the discovery of an anxiety neurosis. The causes for the suppressed emotion must be investigated, or the patient may be left in an even worse condition than that in which you found him.

To the medical man I would say, see that you do your patient no harm by antitherapeutic suggestion; carefully prune your conversation, and do not think out your diagnosis aloud. Purge your mind of vague phrases, and avoid such words as "neuritis." Some diagnoses, such as "floating kidney," are more deadly than the disease. Avoid thinking in terms of surgery when dealing with functional neuroses. When you find that a patient is vomiting, do not let your mind at once leap to gastro-enterostomy. Be natural, but on guard; you will then be ready to deliver your blow at the moment required. At the same time, remember that your most brilliant conversation is useless with an hysteric; she is interested in herself, not in you.

Nature's moral code, under which we work, is cruel and unrelenting. There is no forgiveness of sins; but, in the medical man, this knowledge should be tempered towards the patient by clinical curiosity and human sympathy. In conclusion, I would say to all who have to deal with these morbid conditions, be as honest in thought as you would be naturally in deed. Act without fear and never lose courage; finally, call nothing common or unclean.

A Lecture to Graduates

ON

THREE YEARS OF PELVIC SURGERY.

DELIVERED AT THE MANCHESTER ROYAL INFIRMARY,

BY

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DR. C. P. BRENTNALL, Resident Surgical Officer to the St. Mary's Hospitals, Manchester, and Dr. W. E. Powell, Senior House-Surgeon, Special Departments, Manchester Royal Infirmary, have been kind enough to enumerate and analyse the cases on which I have operated personally at the St. Mary's Hospitals and at the Manchester Royal Infirmary during the last three years. Their figures deal with 1,354 consecutive operations, and show the relative frequency with which common pelvic lesions occur, and indicate the measure of success which may be expected when these lesions are dealt with by surgical methods. The figures also bring out certain debatable opinions and illustrate certain points of view which form interesting subjects for discussion. I thank my two colleagues for the time and care they have bestowed on this analysis, which I propose to bring before you with brief comments on the methods used and the results secured.

Pelvic Infections.

During the three years there were 82 cases of pelvic infection. Of these, 5 were operated upon during the acute phase by the vaginal route, drainage being secured through the floor of the pouch of Douglas. In the other 77 cases the abdomen was opened after waiting until the pulse and temperature had been normal for some time. In 35 of these 77 cases the body of the uterus was removed together with both appendages, while in the remaining 42 cases the injured organs alone were removed, the uterus, one ovary, and one tube being conserved. Drainage by the lower angle of the abdominal incision was used in 13 of the 77 cases. There were no deaths amongst these 82 cases of severe pelvic infection, nor were there any unpleasant sequelae, such as the formation of faecal fistulae. This success I attribute to two factors. First, the results of infection have a natural tendency to recovery. They are not progressive diseases like new growths. Inflammation is not a disease, but a curative process. If judiciously helped by the surgeon it will generally save the patient, though it may be at the cost of her reproductive function. Secondly, in these cases the abdomen was only opened after the acute inflammation was over, the vaginal route being chosen whenever it was really necessary to let out pus during the continuance of constitutional disturbance. Some of you may be horrified to hear that the uterus and both appendages were removed in 35 out of 77 cases. But a uterus without ovaries is no use, and, if left isolated in the middle of the pelvis, with its blood supply impaired, it often becomes a source of trouble. It is best to remove everything except the cervix unless it is possible to leave a fairly sound uterus, one fairly sound ovary, and one fairly sound tube—in short, a working set of reproductive organs. The 35 patients that have suffered the radical operation have their menopause behind them, and will be healthy and comfortable as to the pelvis for the rest of their lives. As to the 42 other patients, some of them may certainly have children; but, on the other hand, some of them are sure to have recurrences of infective trouble with disability, discomfort, and further surgical intervention.

Pelvic Growths.

In 200 cases "fibroids" were the leading feature. One tumour proved to be a sarcoma and one an adenomyoma. Cancer of the cervix complicated one case and cancer of the body another; while small ovarian cysts were present in 13 cases. Nine of the myomata were cervical in position, many of them were degenerated, and several were infected, one patient having general peritonitis on admission. One sloughing myoma was removed in small pieces by the vaginal route, the abdomen being opened in the other 199 cases. Panhysterectomy was done 10 times, supravaginal hysterectomy 180 times, myomectomy 7 times; while in two cases the growths could not be removed. In these 200 cases there were six deaths:

1. General peritonitis on admission; drainage only.
2. Ill after five years' bleeding; abdomen reopened for partial obstruction; no cause found.
3. Fibroid in broad ligament; shock; died the same day.
4. Extreme anaemia; recovered from operation; died some weeks later from anaemia.
5. Embolism tenth day.
6. Uterus contained a dead ovum; pelvic sinuses thrombosed; embolism third day.

Panhysterectomy was done only when the myoma was cervical and in the case complicated by cancer of the cervix. I regard the occurrence of cervical cancer after supravaginal hysterectomy as a mere coincidence. If the cervix should be removed because a woman has a myoma, surely several other parts of her body which are prone to cancerous change should also be taken for the same reason. In operating for myoma I generally follow the guiding principle of leaving nothing but the cervix, unless it is possible to leave a working set of reproductive organs. It is difficult to leave ovaries with their blood supply unimpaired. There is evidence that ovaries left *in situ* do not persist more than a couple of years, and that they often become the site of pathological changes.[1] A woman can only have one menopause, and I prefer that she should get it over just after her operation rather than two years or so later. The surgical menopause is regarded with undue apprehension, and J. W. Bride's[2] investigations show that there is nothing solid to be gained by leaving ovaries when the uterus is removed.

The present series contains only 25 cases of cancer of the cervix, as during the last three years I have been referring a great many of these cases to Dr. A. Burrows of the Manchester Radium Institute. Of the 25 cases 12 were inoperable and received palliative treatment by curette and cautery. The other 13 cases were dealt with by abdominal total hysterectomy. There were no deaths and no unpleasant sequelae. The cases were carefully selected, and we hope that some of them will pass the test of freedom from recurrence for five years. There were 23 cases of cancer of the body. All of them were attacked by the abdominal route, and satisfactory total hysterectomy was completed in 21 cases. The prognosis is five times as good as in cancer of the cervix. There were three deaths:

1. From exhaustion, fourth day.
2. From paralytic ileus, third day.
3. Radium put in parametria at time of incomplete operation; healing, but died from exhaustion on the eighteenth day.

There were 14 patients who were found on abdominal section to be the subjects of ovarian cancer, primary so far as could be ascertained. Most of these patients had a quantity of free fluid in the abdominal cavity (hydroperitoneum). Removal of the growths was attempted in each case, but was found to be impossible in five instances. Of these 14 patients, 5 died of exhaustion before leaving hospital. It may be asked if operation in these cases is justified. There are three reasons for it. First, the removal of a malignant ovary often gives considerable relief during the remainder of the patient's life. Second, in certain cases, in spite of a laboratory diagnosis of malignancy, there is no recurrence at all. Third, without opening the abdomen it is often impossible to make a complete diagnosis. For a uterine myoma, a fibroma of the ovary, or an ovarian cyst, if its blood supply is impaired, may bring about the appearance of free fluid in the peritoneal cavity. Cases with hydroperitoneum, therefore, should not be tapped, but should be submitted to exploratory incision. If this is always done a considerable percentage of the patients can be saved.

Simple cystic and solid growths of the ovary and broad ligament amounted to 114 cases. One of these had general peritonitis on admission and was treated by drainage only. The growths alone were removed in 97 cases, both appendages together with the body of the uterus being removed in 16 cases. Here, as in other conditions, the rule was followed of leaving nothing but the cervix, unless a working set of reproductive organs could be retained. There were four deaths after the 114 operations:

1. Dermoid cyst and fibroid; adhesions; abdomen reopened fourth day for signs of obstruction; no cause found; died the same day.
2. Patient aged 80; admitted for intestinal obstruction; healed well after removal of large cyst; died twenty-third day, intestinal paresis.
3. Two solid ovarians; bronchopneumonia.
4. Suppurating ovarian with peritonitis on admission; drainage only.

Other Pelvic Disorders.

There were 59 cases of retroversion considered to require operative treatment, and dealt with by means of Webster's sling. I find this to be the most satisfactory of the 87 operations which have been devised in recent years for the correction of retroversion. Many of the cases were complicated by the results of old pelvic infection, and in several dyspareunia due to prolapsed ovaries was the leading indication for treatment.

Uncontrollable bleeding at the menopause was treated by supravaginal hysterectomy in 10 cases, which, I am given to understand, could have been dealt with successfully by means of radium. There were also 13 cases of ectopic gestation requiring salpingectomy, and remarkable only because they included no example of rupture with haemorrhage demanding "urgency" operation.

Further, there were 23 unclassified abdominal sections whose consideration is outside our present purpose, interesting as many of them were. They included an inverted uterus, a double uterus, a sequestrated ovarian adenoma implanted on the rectum, diverticulitis, a renal sarcoma adherent to an inflammatory mass in the pelvis, a cyst of the common bile duct, desmoid growths of the abdominal wall, various cases of hydroperitoneum of obscure origin, and various cases of tuberculous peritonitis involving the genital organs. There was no case of primary genital tuberculosis.

Review of Abdominal Operations.

Thus there were 545 abdominal sections in all, and the deaths were 18 in all—that is, 3.3 per cent. It is clear that the mortality could be kept lower than this by selecting the cases; but if operation is undertaken whenever it is thought that life may be prolonged or that suffering may be relieved, a number of post-operative deaths must occur. A careful study of the notes of the 18 patients who died brings out a striking fact which is not always kept in mind. Only three of the eighteen were in ordinary good health when they came for treatment. The other fifteen had been injured by prolonged bleeding, by infections and degenerations, or were the subjects of malignant disease. The three healthy persons died from shock, embolism, and pneumonia respectively. In the other fifteen, pathological factors had been at work before treatment was sought. The lesson is that the removal of lumps from the pelvis and abdomen is like making a will—it should be done in time of health. Three deaths in 545 is 5½ in 1,000, and we know that four deaths occur in 1,000 cases of labour. Thus, when a woman is in good health, she can have a simple uterine or ovarian tumour removed with little more risk and with much less discomfort than that involved in having a baby. But with delay up go the risks. No pelvic lump can be guaranteed to remain in a healthy condition; and if the patient declines to part with one in time of health the responsibility should rest on her and not on her medical adviser.

Vaginal Operations.

Passing on to the cases in which vaginal operations were done, there were 406 cases of genital prolapse. These were treated by methods which I have sufficiently described elsewhere, and all left hospital soundly healed. F. H. Lacey's recent investigation[3] of my 1914–15–16 cases of prolapse shows that permanent cure was obtained in 97 per cent. of them. There were also 112 cases of rupture of the perineum and recto-vaginal fistula, who were all discharged cured. The urinary fistulae numbered 16 and were cured with one exception, which requires further treatment. The whole vulva was excised seven times for cancer and once for leucoplakia, and these operations, with those previously mentioned, make up 560 classified vaginal operations.

There were also 249 smaller vaginal interventions, including cases of haematocolpos, septate vagina, unruptured hymen, senile endometritis, pyometra, cysts of the vulva, Bartholinitis, caruncles, polypi, sterility, spasmodic dysmenorrhoea, cervical lacerations, hypertrophied clitoris, retained products of conception, and various diagnostic explorations of the uterine cavity. There was no death after any of the 809 vaginal operations; which, added to the 545 abdominal sections, give the total of 1,354 consecutive operations in 1919, 1920, and 1921.

REFERENCES.

[1] Polak: *Amer. Journ. Obstet.*, 1918, pp. 199 and 349. [2] Bride: *Journ. Obstet. and Gyn. British Empire*, 1922, vol. xxix, No. 1. [3] Lacey, ibid., 1921, vol. xxviii, No. 2, p. 251.

SOME COMMON DEFECTS OF DIET AND THEIR PATHOLOGICAL SIGNIFICANCE.

ABSTRACT OF THE OLIVER-SHARPEY LECTURES DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS,

BY

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LECTURE II.

IN his second Oliver-Sharpey lecture, delivered on May 4th, Professor E. Mellanby began by reminding his audience of the conclusions to which his first lecture had pointed. He had stated that foodstuffs could be divided into two groups. The larger group, which included the major part of the average diet, was practically devoid of sodium, calcium, chlorine, and two vitamins—namely, the fat-soluble A and the antiscorbutic factor. The reason why this was the general diet was because modern urban communities lived at a distance from the areas where food was produced, and therefore preference had to be given to foods for popular consumption which were easily transportable and which had good keeping properties. The economic situation made it necessary also that foods should be cheap and abundantly produced. He had also pointed out that taste was an uncertain factor in deciding the relative value of foods, and did not prevent people from eating the wrong thing. Certain foods which seemed to be good, such as cereals, upon which children flourished and grew fat, might, under certain conditions of ill balance in other respects, give a deceptive impression of being more nutritious and satisfying than they really were. He had then proceeded to consider, what would be the main theme of this second lecture, the factors in diet which were responsible for the calcification of teeth and bones.

Professor Mellanby went on to say that in all his investigations upon deficiency diseases he had been impressed by the fact that as soon as there was any interference with a natural food product it became less suitable for food and lost some of its best properties. He took as an example the case of milk: if milk was allowed to go sour and acid caseinogen to be precipitated the calcium was lost, so that acid caseinogen used in a diet already deficient in fat-soluble vitamin made the resulting rickets much worse.

Calcium and Fats.

Even if butter were added to a diet a certain additional quantity of calcium must be added to obtain the maximum physiological value. Butter was less satisfactory from the point of view of rickets prevention than the milk from which the butter was made, probably because, in the course of separation, the substance lost some of its calcium. Butter therefore was not as good a food as one would expect, and the results could not be improved in the case of an ill-balanced diet by giving larger and larger quantities of butter. The more butter that was given the worse under these circumstances did the animal become, and the animal might be made very ill by being given much butter without a certain amount of calcium to balance the diet.

This fact had been worked out by McCollum, of Johns Hopkins University, who had tested on rats the value of a diet as affecting growth, fertility, and the power of the mother to rear her offspring. McCollum had shown that the conditions could not be made better merely by increasing the fat. He had added first of all a mere trace (0.1 per cent.) of calcium carbonate, and the rats did better in growth, though the second generation of young rats did not thrive at all. But on doubling the percentage of calcium carbonate, not only was the growth of the adult rats much improved, but the second generation also began to flourish. Cod-liver oil had the power of utilizing to the full every bit of calcium present in the diet, and with 2 per cent. of cod-liver oil added to a diet in which there was 0.1 per cent. of calcium carbonate the condition of the animal was much better than with 8, 10, or even 20 per cent. of butter, with the same minimum of calcium, and no cod-liver oil. If, however, the amount of calcium was raised to 0.5 per cent. butter under those conditions became as good as cod-liver oil. The cod-liver oil could use the minutest quantities of calcium, which the butter could not. McCollum's explanation of these facts was rather hesitating, but the simplest view to take was that cod-liver oil contained a large amount of the fat-soluble vitamin and butter only a small amount.

The lecturer then passed on to speak of the work of Zilva and Miura in the biochemical department of the Lister

Institute. Their growth experiments depended on a piece of technique which seemed to him to be extremely able. They fed young rats on a diet which was so devoid of fat-soluble vitamin that the animals ceased to grow, and their weight remained stationary. Then to this diet were added the substances whose action was to be tested. If the interpretation of these experiments was correct, it looked as if there was a great deal more of this vitamin in cod-liver oil than in butter. In any case, taking these facts together, it was evident that butter was inferior to milk, and one explanation at least was that in milk there was a larger quantity of calcium, which was lost on the separation into butter. One result of feeding animals on butter was to give a beautiful glossy skin; but, although there was no eye disease—keratomalacia or xerophthalmia—which occurred with other diets, there was still rickets with a butter diet if calcium was not ensured in sufficient quantity.

Iodine Deficiency.

There was one point to be made in connexion with the constitution of cod-liver oil. Cod-liver oil did contain, at any rate, one substance which was not possessed by the other fats. In the animals on which the experiments had been made it had always been possible to detect which animals had had cod-liver oil by examining their thyroids. The cod-liver oil always ensured thyroids normal in size, whereas the thyroids of animals on other fats in these deficiency experiments tended to enlarge. In twelve puppies in whose diet cod-liver oil was used as the fat the average weight of the thyroids was 0.58 gram, while in twelve puppies fed on butter instead of cod-liver oil the average weight was 2.77 grams. Not only was there this difference in the weight of the thyroid, but the epithelium became more of a columnar nature and there were irregularities and invaginations of the epithelium and general abnormality in the thyroids of the butter-fed puppies. The hyperplasia produced in the gland by these means was almost indistinguishable from that associated with exophthalmic goitre, although there were none of the symptoms of this condition. The simplest explanation of the difference between the glands in these two types of animals was that cod-liver oil contained a certain amount of iodine, and the other fats did not contain iodine. It was instantly appreciable from a study of these dietaries how many substances in the ordinary range of foodstuffs did not contain iodine, for these animals were fed on quite a variety of food.

It was probable that a deficiency of iodine in human diet caused abnormalities, though he did not think such iodine deficiency very common in this country. In any event the ordinary case of goitre could hardly be said to be due entirely to deficiency of iodine in the diet; it was no doubt partly due to this cause, but it was due to some other lack of balance as well, making the story altogether a complicated one. In America the prophylactic treatment of enlarged glands was pursued by giving school children small doses of iodine twice a year, and it was said that where this procedure was adopted there was no subsequent enlargement of the gland. In any case in these animal experiments cod-liver oil prevented any of this kind of hyperplasia. However the animals were fed, and whatever the other conditions, if they had got cod-liver oil in the diet they always retained a normal gland. The action of cod-liver oil could not be explained merely on the ground of the iodine content; there must be other things in addition. If small quantities of iodine were given to patients suffering from exophthalmic goitre—say one or two grains three times a day—the effect was quite dramatic. Usually this treatment for a time altered completely the metabolism of the patient. The patient put on weight, the tremors disappeared, sweating gave place to coolness, excitability to quietness, and with all this the tumour at the neck became larger. These were the first effects of the administration. If cod-liver oil were given to people with exophthalmic goitre the effect was to increase the symptoms; there was more tremor, more sweating, increased loss of weight, and the size of the gland usually went down. The whole effect was different from the iodine effect. He made it plain that he was discussing this matter from the experimental, not from the curative point of view.

A Seeming Contradiction.

Returning to the question of calcification, Professor Mellanby reminded his audience that in his first lecture he had pointed out that in the repair of structures affected by rickets the vitamin did the calcification, while growth depended largely on how much cereal was used. The more cereals eaten, everything else being constant, the greater the rickets produced in the absence of the vitamin. When these results were first published he thought that the cause of this was the amount of carbohydrates which the animals had eaten, but lately he had taken up the subject again to see whether there was any difference between the cereals, independently of their carbohydrate content, and he found that there was such a difference. A dog was placed on a standard diet, with olive oil as a fat, and white flour. He had been inclined to predict that oatmeal and wholemeal flour would be the best cereals because these contained calcium, and that white flour, having lost its calcium, would be the worst. But the dog which had had white flour as its cereal appeared to be fairly normal, whereas the dog which had had oatmeal got rickets. Therefore from this point of view oatmeal was worse than white flour. The *x*-ray photographs showed that the animal fed on white flour had a certain slight amount of rickets, whereas an animal fed on wholemeal flour had more pronounced rickets, everything else in the diet being equal; with rice, again, there was less rickets, and with oatmeal more. These results were entirely opposed to all that one would imagine. A dog brought up on polished rice *plus* wheat germ showed worse rickets than a dog brought up on rice alone without the wheat germ. He could not see the explanation at present. It did not mean, of course, that oatmeal and wholemeal flour were worse than rice and white bread, but what could be said was that when a diet was deficient in fat-soluble vitamin, oatmeal and wholemeal flour seemed to be the worst cereals from the point of view of continuing rickets.

Diet in Human Rickets.

Turning to human rickets and the applications of these results to the treatment of children, the lecturer said that obviously the matter was most important from the point of view of infant health. If the process of calcification of teeth and bones were well started at an early age, it was difficult to upset the process later on. In Sheffield, where he had been working lately, there was a great deal of child rickets of a much worse type than anything seen in London, and there was much adult rickets also. In the treatment of these children the diet on which they were put did not differ greatly from normal. It contained milk, bread, and beef dripping. The children were given about one ounce of minced raw meat, with potatoes and greens, and milk pudding; and in addition to these ordinary things he gave them cod liver oil three times a day, and always included an orange in the diet. Cod-liver oil, however, had its dangers—for instance, it sometimes led to dyspepsia—and if there was any difficulty about giving it, the best plan was to cut down the other fats. On these diets the rickets was cured. He showed some striking comparative photographs of children who came in with bad deformity and gradually improved under this diet. Some of the children with rickets were quite unable to stand when they came in, and often appeared quite imbecile. The diet not only cured the rickets and strengthened the bones, but absolutely transformed the child's attitude towards life. He did not understand the talk about the necessity for exercise and massage and electricity in rickets; it was the deficient diet which prevented exercise, and until that was rectified the rickets would go on.

In conclusion Professor Mellanby said that he had used this question of rickets and the calcification of bones, not in order to show the etiology of the disease or even the treatment—he had used these facts to illustrate the differences that could be brought about in the anatomy and physiology of ordinary human tissue by changes in diet. It was possible now to take a point of view which would have been quite out of the question a few years ago. This work on foodstuffs was only at its beginning, and it would take many years before all the variables could be worked out. These diets did not only produce bone changes; paralytic effects and other nerve symptoms were produced, and often in these animals changes were brought about in the heart which made them extremely susceptible to anaesthetics. Under the influence of diet they became also very susceptible to catarrhal infections of the alimentary canal and the respiratory tract, and to skin affections; but these conditions had not been worked out because it was not known in detail what were the actual factors involved. Although it was impossible to demonstrate at present the basis of the susceptibility to these infections, he had no doubt in his own mind that deficiency of diet played a large part in them. In any case in this kind of work the laboratory justified itself in a manner in which perhaps it had never done previously.

THE INTERSTITIAL GLAND.*

BY

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IT has long been known that the reproductive glands both in man and woman preside over the determination of what are called the secondary sexual characteristics. The primary sexual characteristics are, of course, penis and scrotum in the male, and vagina and uterus in the female. Among the secondary sex characteristics are the beard and the bass voice in the male, and in the female the smooth skin, the treble voice, and the development of the mammary glands. There are other physical differences between the two, such as stature and breadth of pelvis, and these are accompanied by certain mental and temperamental differences upon which I need not insist. Ever since castration was first performed—and castration is probably the oldest of all surgical operations—it has been evident even to superficial observers that castrates differed in several very important particulars from those who had not been subjected to this mutilation. It has thus become a matter of common knowledge that the testes in the male and the ovaries in the female supplied some element to the economy which not only determined, but served to maintain, what we call maleness in the one and femaleness in the other. In the case of man it was believed until comparatively recently that this element or essence was derived from the tubuli seminiferi, and to some extent perhaps from the prostate gland. This, though a very natural inference, has proved to be erroneous. It has now been shown beyond any manner of doubt that this essence or hormone is secreted by what is known as the interstitial gland.

The interstitial gland was first described by Leydig of Frankfort in 1850, who wrote as follows:

> "Comparative histology has shown that in addition to the seminal tubules, blood vessels, and nerves, the mammalian testicle contains another constant structure, which appears as a group of cells which, when small in number, seem to follow the course of the blood vessels, but when plentiful seem completely to surround the seminal vesicles as though to embed the latter."

This observation of Leydig's, if at the time of its publication it was noticed at all, was regarded merely as an histological curiosity entirely devoid of physiological significance, and no reference appears to have been made to it until 1903, when Ancel and Bouin published the first of their series of papers which have since become classical. It is interesting to note that about the time of Leydig's observation, Claude Bernard was delivering at the College of France a series of lectures on experimental physiology in which he coined the term "internal secretion." It was many years later that his co-worker Brown-Séquard, after experiments on himself, scandalized London and even Paris by proclaiming that he could cure sexual senility by injections of fresh testicular extract. As we shall see presently, he was much nearer the truth than his contemporaries imagined.

Such, then, is the now famous interstitial gland—a mass of minute structures not unlike fatty globules situated in the connective tissue of the testicle, separate from and unconnected with the vesiculae seminales and vas deferens, and endowed with the function of supplying an internal secretion to the economy which determines and maintains not only the secondary sexual characteristics, but also the copulative capacity of the individual. So far, I have dealt only with the testicle. The ovary also contains an interstitial gland, but as the presence in the adolescent and adult ovary of the corpus luteum produces a complication which renders the train of events rather difficult of clear comprehension, I shall not attempt to deal with it here. In elucidation, however, of some points of considerable importance I must briefly consider the question of the development of the interstitial glands in the two sexes. At the moment of conception two elements, a male and a female, combine to form an entity. These elements are warring elements, each of them potentially charged with their characteristic interstitial glands, which develop very early in embryonic life. For several weeks this embryo is neuter, and we are to suppose that the male element and the female contained therein are striving for mastery the one over the other. Then comes the time when one, say the male, has definitely gained the victory, so that penis and scrotum instead of vagina and uterus result. But the victory is never complete. The embryonic interstitial glands on both sides have been mobilized, the armies have been engaged, and albeit the one may win, the other, though defeated, is by no means annihilated. Thus it comes about that in every child born there remain a certain number of these antagonistic interstitial gland cells which, entrenched opposite their victors, continue to glower at them, spoiling for the next encounter. The two armies now cease firing and go into winter quarters. Then at the age of puberty there ensues a second battle royal. The fact that the external evidences of maleness are firmly entrenched does not prevent the female interstitial cells from making one last desperate attempt to gain the mastery; so that side by side with the secondary male characteristics which should accompany the penis and scrotum there may appear some secondary female characteristics, such as a broad pelvis, high-pitched voice, together with female mentality and feminine tastes. There is no man but has some taint of the woman in him, and no woman without some smatch of the male. When the victory in favour of maleness is complete the result is a Caesar, a Napoleon, a Bismarck—active, resolute, and ruthless. When less complete you have the ordinary man, respectable, hard-working, but with engaging weaknesses. With yet another dose of the female interstitial gland in his composition you come upon the effeminate artistic male, who, whatever his practices, is usually homosexual at heart. Reverse the medal, and you are in the presence of such an eternal femininity as Josephine or Mary Queen of Scots. With added male elements, in different degrees, you see Queen Elizabeth, Catherine of Russia, Madame de Staël, or the latter-day suffragette. It is more than probable that among the ranks of the last were a large proportion of women in whom the male and female elements were so nicely balanced as to render them frankly homosexual, and that their activities were directed, subconsciously perhaps, to obtain, not so much a vote, as the right to dispute on equal terms with their male adversaries in the gate of the forum and the market place. "Infirm of purpose," you can hear them shout with Lady Macbeth, "infirm of purpose, give me the daggers." The lineal representatives of these portents of a generation ago are now engaged, some of them, in the exercise of what they are pleased to call "self-expression" in journals and novelettes. And someone recently compared their methods to those of the little boy, newly awakened to the stirring of sex within him, who writes obscene words on the vicar's garden gate.

From these considerations two points of social importance emerge. One is the question of the determination of sex in a young embryo; the other is the attitude which a civilized community should adopt towards homosexuality. Taking the latter point first and briefly, I am entirely of the opinion, suggested rather than expressed in a recent lecture by my friend Julian Huxley—namely, that the present law on the subject requires revision. Regarded in the light of pure physiology, it is no more reasonable to punish a man for being homosexual than it would be to punish him for having red hair. Both of these things are burdens cast upon him by forces over which he has no sort of control, nor can he alter or even modify them by any effort of the will. It is high time that the members of our profession expressed strong and clear views on this question. Let us remember that it is not so very long ago that people were tortured for being insane, and that it was a great-hearted French physician, Philippe Pinel, who died in 1826, who, at the risk of his own life and liberty, insisted upon the humane reforms which were afterwards generally adopted.

On the second point, the question of the artificial determination of sex soon after conception, though the present state of our knowledge does not permit of dogmatism, I should like to say that if the train of events which I have sketched above is even approximately correct it is reasonable to suppose that by reinforcing the male element in the embryo by male interstitial gland, administered to the mother, we ought to be able to determine the victory in favour of definite maleness in the full-time child, and that by exhibiting the same extract when puberty threatens we could ensure against anything in the nature of homosexuality in the adult.

But things are not always what they seem, and this is even more abundantly true in the domain of the ductless glands than elsewhere. These glands constitute a hierarchy of interdependent entities. I am fond of comparing them to the eight rowers in an outrigged boat. All are pulling in the same direction, and yet some of them antagonize certain others. If you reinforce one his antagonist will immediately be stimulated to retort, so that unless you have experience to guide you, especially in the dose of the original reinforcement,

* A paper read before the annual meeting of the Westminster Division of the British Medical Association.

you may bring about a result which is the exact reverse of what you desire. I am nevertheless of opinion that in a proper dosage of the appropriate interstitial gland we hold the key to the solution of the vexed and much-debated question of the artificial determination of sex.

Let us now return for a moment to the mammalian testicle. We have seen that it has two sets of glands—the tubuli seminiferi and the interstitial glands. The former of these supplies an external secretion which is conducted by the vas deferens to the vesiculae seminales, where it is stored for emergencies. The second, the interstitial gland, is a ductless gland which pours its secretion directly into the blood vessels to act as a hormone—that is, as a specific stimulant to certain parts of the economy. Now, the interesting point about these two activities is that they are in some senses antagonistic. Let me say, parenthetically, that the more you study the endocrine glands, the more deeply do you become impressed by this element of strife within the body. There is war between the male elements and the female in the product of conception; there is war between the thyroid and the pancreas; there is an armed neutrality between the thyroid and suprarenal; it is pull devil, pull baker, between the pituitary and the gonads; and here in a single structure, the testicle, we find, where we should least expect it, a never-ending combat between its internal secretion on the one hand, and its external on the other. The bone of contention seems to be the lion's share of the blood supply. Both the external and the internal appear to demand more than the other, for it has been shown that when one is down and out the other multiplies abundantly.

In 1903 Ancel and Bouin described some of the effects of ligaturing the vas deferens on one side in dogs. This experiment has been frequently repeated, and the result has always been a gradual atrophy of the seminal vesicles on the side of the ligature. Recently, however, another result has been observed—namely, that *pari passu* with the atrophy of the seminal vesicles there has appeared a definite hypertrophy of the interstitial element. The knowledge thus obtained has been applied clinically to prevent or counteract the degenerative effects of senility. In America very largely, to some extent both in France and Austria, though, so far as I know, not yet in this country, the operation of ligaturing the vas deferens on one side has been performed in elderly men, and has been followed by a remarkable access of mental and physical vigour. As to how long the rejuvenescence thus produced may be expected to last there do not seem at present to be any data upon which to form an opinion. Brown Séquard's successful experiments on himself were similar to, though by no means identical with, those which are now being performed; but if his case is to be accepted as any guide we must not place too much reliance upon these methods of defying time, for he was no more than 77 when he died.

Soon after the *x* rays were introduced it was found that many very serious penalties attached to the pioneers in this fascinating means of diagnosis and treatment. Among the less serious drawbacks to constant exposure to these rays it was found that the operators became sterile. They did not lose their sexual capacity or their sexual appetite, but they became incapable of begetting children. In 1905 Bergonié and Tribondeau showed that the effect of the rays was to cause atrophy of the seminal vesicles and concomitant hypertrophy of the interstitial glands—the same result, in fact, as is now known to be produced by ligature of the vas deferens. It therefore comes to this: an elderly man who wishes to renew his youth need not subject himself to the operation of ligature of one vas deferens so long as he can find a radiologist who can expose one testicle, and one only, to the activities of the *x* rays for a period sufficiently long and in a dose sufficiently powerful to ensure the atrophy of the seminal vesicles on that side. The interstitial glands will then hypertrophy and fructify, with results which may or may not be altogether desirable even to the individual. On that point there is only Faust to interrogate, and he is silent.

There are some other influences of what may be called a more normal kind than the foregoing, which seem to give rise to results somewhat analogous. Chief among these are the poisons of alcohol and tuberculosis. It is a common observation that alcoholic drinks produce an aphrodisiac effect upon some people. The porter in *Macbeth* informs us that "drink is a prevaricator with lechery; it creates the desire and takes away the performance"; the physiological meaning of which is that while stimulating the interstitial gland, it paralyses the sphincters of the veins in the corpora cavernosa. That chronic alcoholism leads to an hypertrophy of the interstitial element in the human testicle is now a recognized fact; that it leads to a concomitant inactivity of the seminal vesicles is a reasonable deduction from many of the confidences, some of them embarrassing, which we receive in the consulting room. In the matter of tubercle, it has long been recognized in France that a very early manifestation of the disease is a heightening of the sexual appetite. In this country the matter is, of course, regarded from the opposite point of view, the pulmonary phthisis, when it appears, being confidently ascribed to the direct intervention of the Almighty for the punishment of the premonitory sexual excess. Wherever the truth may lie, all the authorities who have written on the subject agree that after death from pulmonary tuberculosis the interstitial glands are found to be much hypertrophied.

I have already said that the interstitial gland is a member of the hierarchy of glands of internal secretion known as the endocrine system. To endeavour to think in terms of this system is to understand the fascination of the will-o'-the wisp and its elusiveness. I try, as I have said, to think of it as a trim and true outrigged boat, manned by trained men and wisely guided by a cox, but ever and anon in sheer desperation I cry aloud that it is naught but a cage full of wild and ineffectual monkeys. To try and establish any constant rule or relationship between the component glands is deeply to sympathize with Sisyphus, or rather Balbus, for just when you think to have built your wall the whole bag of tricks comes tumbling about your toes. It is therefore in a chastened mood that I venture to suggest—I would not dare to dogmatize—some of the relationships which the interstitial gland appears to have with some other members of the hierarchy. First, then, there is the suprarenal, which appears to be a predominantly male gland. Its cortex seems to supply a combative element to the character, and when the whole gland is well developed and active, the stature is medium or short, the trunk is hirsute, and the individual is normally or even abnormally sexually inclined. There is here some very obvious association between the interstitial gland and the adrenal, but the exact nature of that association remains to be explained. Then there is the thyroid, a predominantly female gland, which is nevertheless not only the great stimulator of metabolism in general, but seems to exercise a particular effect upon the sex glands in the male, inasmuch as when orally administered, the extract will cause the descent of a hidden testicle in young adults. And again there is the pituitary, which presides over the type of the bony skeleton, and is therefore presumably under the direction of the appropriate interstitial gland, male or female, as the case may be. And yet it seems to have a peculiarly intimate connexion with the ovary, for ordinary amenorrhœa is more surely and more swiftly cured by oral exhibition of its extract than by all the curative and curettive ministrations of the operating gynaecologist. Nor need I remind you that Fröhlich's syndrome as it is called, dystrophia adiposo genitalis—or, as Jonathan Hutchinson, who was the first to describe it, originally christened it, lipomatosis universalis asexualis—proclaims a direct and intimate relation between the pituitary and the interstitial glands in the male, for the dystrophy is simply, surely, and swiftly cured by administration of extract of the whole gland by the mouth. Then there are the glands, notably the thymus and the pineal, which seem in some measure to act as a drag or check upon the activities of the gonads, while there are facts concerning them which point in a direction precisely opposite.

It would be easy to continue thus to pose problems concerning the interdependence of individual glands to which neither I nor anyone else can at present supply satisfactory answers, but to do so would probably serve only to spread my own bewilderment; so I will ask you, for the present at any rate, to join with me in an endeavour to regard these glands, not so much in their individual capacities as in their collective, to look at the boat as a whole, and not at the individual oarsmen.

In the existing state of our knowledge we must be content to treat the endocrine system as a system, and not as an agglomeration of individual glands, so that where there seems to be deficient or superabundant activity in any one gland we must make our therapeutic appeal for regularization to the system at large. That such is the proper course is obvious when we consider that our main enemies are toxins, and that our defences are the ductless glands. If a time should ever

be when we shall be able to allocate to each gland its responsibility for a particular toxin that time is not yet, so that our only rational course is so to husband the resources of the endocrines by protecting them from unnecessary poisons as to keep them fresh and alert to deal with such as are inevitable in our present artificial communal life. If we fail thus to protect them they become prematurely worn out by the ceaseless conflict with poisons which come from without. That is why a gradual decline in vitality so often begins at about 50 years of age, why cancer comes, and arteriosclerosis and other degenerative conditions. The endocrines thus gradually retreating before the advancing toxins are at last driven to capitulate, and the end comes. Now, looking at the matter from the point of view of comparative biology, there is no reason why man should be senile and effete at 70. If we argue from analogy we must admit that in relation to the time which it takes him to arrive at maturity man ought to live to the age of 100 or 120 years. That he does not do so indicates quite clearly that the kind of life he is now leading is not in accordance with physiological laws; that the poisons which he introduces into his system are either too concentrated or too persistently applied for the endocrines to withstand for more than a relatively short period.

It is an interesting fact that the glands in both sexes which show the first signs of fatigue are those which seem to have the closest connexion with the gonads—namely, the suprarenal in man and the thyroid in woman. In woman the reproductive capacity is definitely brought to a close at the menopause, and it does not surprise us that the necessity for redressing the endocrine balance consequent upon the withdrawal of the ovary from practical politics should give rise to considerable constitutional disturbance. It is nevertheless, to me at any rate, rather surprising to find that the gland to which we appeal most effectually in such cases is the thyroid. And here let me say, with all the emphasis at my command, that the appeal to thyroid extract should always be made cautiously at first—that is, with very small doses, never more than 1 grain per diem. I have been preaching this gospel for many years, and, although I am pleased to say I have made many converts, even now scarcely a week passes without my being profoundly shocked by the seemingly light-hearted manner in which members of the profession throw 5-grain tablets at their patients as though they were dealing with confetti at a carnival. That the combative gland, the suprarenal, shows declining vigour as the years advance is a matter of common observation. Bacon tells us that "men of age object too much, consult too long, adventure too little, repent too soon, and seldom drive business home to the full period, but content themselves with a mediocrity of success," which is only another way of saying that the gland of fright and fight has lost its recoil.

It is often said that a train of phenomena takes place in men between 60 and 70 in many ways comparable with the menopause in women. I have never been able to support this view. It is undoubtedly true that in most men the copulative and reproductive capacity begins in that decade sensibly to decline and ultimately to peter out. But by no means in all men. We could all of us cite outstanding instances of men who have retained a large measure of sexual power well into the following decade, but no one except the biographer of Sarah has ever recorded a case of a woman who has reproduced her kind at such an advanced age. There is obviously no reason why a man should lose his copulative and reproductive power so long as his gonads retain their efficiency, and this efficiency usually becomes impaired about the sixties because of the accumulation of poisons in the system. We have already seen that certain poisons (and I have instanced two only among many) cause an atrophy of the seminal tubules and an hypertrophy of the interstitial glands. Now it is more than likely that the interstitial hypertrophy represents an endeavour on the part of these glands to repel a chronic toxaemia. The hypertrophy succeeds for a time in supplying the extra quantity of necessary antidote, but at last, overwhelmed by the strength of the invader, the gland succumbs. We see this train of events so often in the case of the thyroid—the goitrous cretin, for example—that it seems reasonable to offer the same explanation in the case of the interstitial gland. Then there is the senile hypertrophy of the closely associated prostate to account for. Is it possible to doubt that this too is an antitoxic gland, or that its gradual enlargement with advancing years is due to the constant endeavour to prevail in the unequal combat against lethal poisons introduced from without? The removal of the gland—which is, after all, a simple surgical procedure—has been shown to be followed at no very long intervals by symptoms which go far to support this view.

And so we come to the question as to what are these toxins which the endocrine system is at such pains to neutralize and nullify. The answer is altogether outside the terms of my present reference, but to indicate the sanction for the views which I hold very strongly let me remind you that man is the only animal who has lost the instinct of physiologically selecting his food; that man is the only animal who cooks his food; and that the Almighty no more invented the kitchen than He ordained the gin palace or the opium den. Cooking destroys vitamins, and vitamins are to endocrines what endocrines are to the economy. The kindly fruits of the earth to which we do lip service in the Litany are ruthlessly relegated to a back seat in our everyday lives, and until we see reason in this respect while it is yet day we shall continue to poison our endocrines and to pass ignobly into nothingness with our allotted tasks but partially accomplished.

NOTE ON THE PEPTONE TREATMENT.

BY

A. G. AULD, M.D., D.P.H.OXON.

(From University College, London.)

In the use of peptone for certain cases of asthma and other conditions of sensitization we have, as a rule, to rely on commercial products. These differ widely in composition, and consequently in their pharmacological actions. The latter are at present undergoing investigation, and some very divergent preliminary results have been obtained by Professor A. J. Clark with some samples submitted to him. What is really needed are preparations physiologically standardized. The proteoses are by far the most important constituents. A peptone solution fit for clinical use may be roughly tested by adding to a few cubic centimetres in a test tube two or three drops of strong nitric acid. A copious white precipitate is immediately produced, consisting of primary proteoses. On heating, the precipitate entirely dissolves, and reappears on cooling.

In a former paper[1] it was stated that Witte's peptone, even in the small doses of the 2 per cent. solution, may produce an immediate sharp reaction in certain subjects. Flushing, salivation, headache, palpitation, cyanosis, and dyspnoea are the usual symptoms. The dyspnoea is asthmatical in character, and may last a considerable time. Faintness, sickness or vomiting, purgation, and localized oedema or urticaria may supervene in very sensitive subjects. In the mildest cases flushing, alone or with a sense of constriction in the chest, occurs. Any combination, however, may be encountered. There seems to be no doubt that this almost instantaneous and sometimes alarming syndrome is caused by histamine in the peptone. The above symptoms can be faithfully reproduced when histamine is administered intravenously, and are due to a sudden injurious dilatation of the capillaries and venules, peripherally induced, together with stimulation of smooth muscle. Hanke and Koessler,[2] by an ingenious and exhaustive process, though finding no histamine in blood, fresh tissues, casein, etc., as originally affirmed by Abel and Kubota, nevertheless recovered it from Witte's peptone in the proportion of 0.00335 gram to 100 grams peptone. It might be urged that this represents too small a quantity in the intravenous injections to be effective, and that the symptoms must be referable to the peptone itself. Now these figures give 1/1,500 mg. histamine (the equivalent of 0.3 c.cm. of a 1 in 500,000 aqueous dilution) in about 1 c.cm. of a 2 per cent. solution of Witte's peptone (an average dose). This dilution, I found, gave a positive dermal reaction (0.5 cm. and over) in many subjects, but the intravenous injection of 0.3 c.cm. in the subjects tested was either very slight in effect or negative. However, when this amount was mixed with the usual doses of a histamine-free peptone, the injections, previously negative, gave the histamine effect in numerous instances. Apparently, therefore, the peptone reinforces in some manner the action of the histamine. The intensity of the effect depends on the amount of histamine-peptone present in the blood per unit of time—in other words, on the rapidity of the injection. The reaction to the peptone (proteose) itself, should it occur, requires some time and is pyrexial in character.

It is necessary to recognize that histamine is a degradation product (by decarboxylation) of the amino-acid histidine, and acts after the manner of a powerful drug. Its presence in a peptone is a drawback, as it not only may entail a limitation of the dosage, but is itself quite useless in the immunizing process, if not actually harmful. It was found by Hanke and Koessler that peptone which was perfectly histamine-free produced the typical peptone shock. Histamine shock has indeed the more obvious features of peptone shock, but is shorn of certain essential attributes of the latter—namely, extensive katabolism of body tissues and incoagulability of the blood (supposed due to antithrombin formation from the interaction of peptone and hepatic cells).* Ringer and Underhill[3] were unable to produce any increase in tissue katabolism by shock doses of histamine enormously greater than those contained in a toxic dose of Witte's peptone. Further, histamine is unable to produce swelling of the liver in dogs, or to produce pyrexia, or to desensitize. Histamine has been occasionally detected in the intestines, but whether it escapes the action of the liver and produces the symptoms of disease is an open question. It certainly can be swallowed in considerable amount, comparatively speaking, without the production of any symptoms. But in the katabolism of tissue associated with anaphylactic or anaphylactoid shock it is quite possible that histamine may be produced where cell-oxidation ceases, just as it is supposed to be formed in the tissue destruction leading to wound shock.

The dermal (scratch) test may give evidence as to the presence of histamine in a peptone (conc. solution), as all individuals give a marked though varied response to extremely dilute solutions of histamine. For testing purposes one of Burroughs, Wellcome and Co.'s ergamine tabloids may be dissolved in water or saline in various dilutions and used as a control. A peptone giving a wheal of 0.4 cm. and upwards in diameter in a series of cases may be suspected, the size of the wheal depending on the sensitiveness of the patient to histamine, though it must be remembered that sensitiveness to the peptone itself may also be present. Of the peptones I have tested in this way, the largest wheal (up to 1 cm.) has been constantly given by Parke, Davis's peptone (which contains no primary proteose). Confirmatory evidence is afforded in the immediate histamine effect produced by the intravenous injection of very small doses of this preparation.

A patient may be hypersensitive to both peptone and histamine, but the same patient may react differently to histamine on separate occasions, owing to unknown causes; also, the dermal and constitutional reactions do not always correspond. Sometimes intradermal tests are made, but they are usually unnecessary and may be dangerous, unless a very dilute (2 per cent.) solution of the peptone or suspected peptone be used, and then only 0.1 c.cm. should be injected. The injection of a strong solution may cause histamine shock. Also, if after a negative intradermal injection the ordinary intravenous injection be soon made, the two may summate and cause shock. According to Dr. Chandler Walker,[4] intradermal injections are very erratic, far too sensitive, and practically non-specific.

Ordinarily, therefore, and especially for those requiring a higher dose of proteose—sufficient, that is, to produce a slight constitutional reaction—the Armour No. 2 peptone† should be employed, which, in my experience, never gives the histamine effect. It will be found that the maximum dosage will approximate 2 to 2.5 c.cm. of the 5 per cent. solution. Witte's peptone is of particular value in certain cases owing to the nature of its proteoses, but it is best given diluted with a weaker peptone, as recommended in my last paper.[5] But the Armour peptone (intramuscular or intravenous) gives the best results in the majority of cases, and may be safely administered to the youngest child. Should toxic symptoms unexpectedly supervene, suspect contamination of the solution—a not infrequent occurrence. It may be added that a satisfactory immunizing process is characterized by a slight leucocytosis, particularly as regards the large mononuclears, and by increase in the haemoglobin and red cells.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, vol. i, 1920, p. 563. [2] *Journ. Biol. Chem.*, vol. 43, 1920, p. 567. [3] *Journ. Biol. Chem.*, vol. 48, 1921, p. 510. [4] *Journ. Med. Research*, vol. 37, 1917, p. 287. [5] BRITISH MEDICAL JOURNAL, vol. i, 1921, p. 698.

* Evidence of a new kind, contrary to this view, has lately been advanced (*Proc. Roy. Soc.*, Series B, vol. 93, p. 367).

† The Armour Company have given an assurance that this peptone will be maintained of a uniform composition.

A CASE OF NON-RHEUMATIC AORTIC STENOSIS IN A YOUNG SUBJECT.*

BY

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DR. L. GALLIVARDIN has recently described in an interesting paper a group of cases of aortic stenosis in young persons which he believes to be non-rheumatic in origin.[1] The case I bring before you seems to belong to this group.

The special features of the group are:

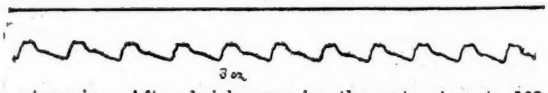
1. Aortic stenosis with loud murmur and marked thrill in young persons.
2. The stenosis generally "pure"—that is, unaccompanied by regurgitation, or, if aortic regurgitation coexists, its murmur much less marked than the murmur of the stenosis.
3. A long period without symptoms.

The causation Dr. Gallivardin considered doubtful: some cases he thought might be of congenital origin; most, he suggested, might be due to a post-natal valvulitis of unknown nature. Eight male cases were described in his paper, aged respectively 21, 25, 19, 20, 17, 19, 21, and 23. Of these the first only had been also observed at an earlier age—namely, at 7 or 8.

H. C. P., aged 17½, a bricklayer's apprentice, a florid, well-nourished, healthy-looking, intelligent lad, was sent to me by Dr. Whaite of Heavitree, complaining of shortness of breath on exertion. This had been noticeable for six months, but only troublesome for three months, during which he had been put on a man's job, carrying hods and working eight hours a day. He had had no pain, faintness, giddiness, cough, or blueness on exertion. At 11 years old a school doctor had forbidden him to play football on account of "incurable" heart trouble, but he had continued to play because he felt no ill effects from doing so. The boy has never had rheumatism, chorea, or scarlet fever. No doctor attended his birth. At nearly a year old he was in this hospital for large glands in his neck which subsided without operation; no mention is made in the surgical notes of any tonsillitis, nor, unfortunately, of the state of the heart. As a child he had whooping-cough and chicken-pox. On leaving school he worked first as a compositor, then as an Army Pay Corps messenger, then for sixteen months as a tailor's porter, with much bicycling and some lifting of heavy weights, finally at his present job, which has proved too much for him. He has never had any serious accident or sudden overstrain; influenza in 1918 was the only illness since childhood in which he needed a doctor.

There is no family history of acute rheumatism or chorea. His father is a strong-looking man of 55 who has had some "rheumatic gout" for ten years, never syphilis. His mother died of phthisis at 46; she was subject to "fainting attacks," but was not said to have heart disease; she had no miscarriages. A brother of the patient in the army died of phthisis at 26. Two sisters and another brother are alive and well; the surviving brother has had his tonsils removed, but is stated never to have had acute tonsillitis.

The circulatory condition is as follows: Pulse regular (84), not "water-hammer," giving the anacrotic, flat-topped tracing of



aortic stenosis. After brisk exercise the rate rises to 108, but drops back to 84 in two and a half minutes. There is visible pulsation above the manubrium and clavicles, but little further up the neck. In the erect position the heart's apex beat is in the fifth space, half an inch inside the left mammary line, and the dullness reaches transversely from that point to three-quarters of

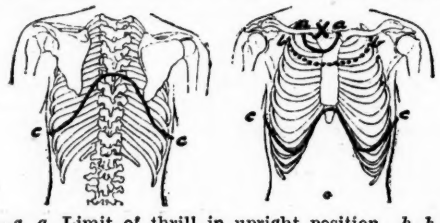


FIG. 1.—*a*, *a*, Limit of thrill in upright position. *b*, *b*, Ditto in recumbent position. *c*, *c*, Limit of systolic murmur, upright position. ×, Maximum point of murmur and thrill.

an inch to the right of the mid-sternal line—practically a normal width. Over the upper part of the chest there is a marked systolic thrill and a loud, rasping systolic murmur; both have their maximum close to the right sterno-clavicular joint and just over the manubrium in the neck; the murmur is heard in the carotids up to the ear, and almost all over the chest. Fig. 1 shows the area

* Read at a meeting of the Exeter Division of the British Medical Association, February 17th, 1922.

of the thrill and the lower limits of the murmur. There is also a much softer, fainter diastolic murmur, whose area is shown in Fig. 2. When I first saw the patient this diastolic murmur was heard with difficulty with the double stethoscope, a little better with the straight stethoscope, and surprisingly easily by the ear laid directly on the chest. It is interesting to note that Dr. Gallivardin made the same observation on one of his cases. When a deep breath was taken and held the diastolic murmur disappeared, which I think indicates a very slight degree of regurgitation. The femoral pulses are normal and Duroziez's sign is absent. A skiagram shows a fairly normal-sized heart, but with a rather dilated aorta, and with the screen this aorta is seen to pulsate actively—a condition which, Vaquez and Bordet consider, suggests congenital aortic stenosis.[2] The second sound is audible over the right clavicle.

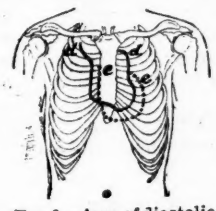


FIG. 2.—Area of diastolic murmur. *d, d*, In upright position; *e, e*, in recumbent position.

There is no clubbing of fingers or toes. The right tonsil is chronically enlarged, a fact of which the patient was unaware. The other organs, including the ocular fundi, are normal.

The diagnosis of an aortic stenosis with regurgitation is here so plain that no discussion is needed. The actual degree of stenosis cannot be great, judging by the pulse, the size of the heart, and the symptoms, although the murmur is what might be suitably called "extravagant." The regurgitation must be very slight, judging by the pulse, the presence of the aortic second sound in the neck over the right clavicle, the size of the heart, the characters of the murmur, and the symptoms. No other cardiac lesion has been detected.

I do not think we can reasonably consider that the valve defect is in this case post-rheumatic. It clearly is not traumatic or syphilitic. So the question to decide becomes, Is the condition of congenital origin, or has it arisen between birth and 11 years of age from some unknown form of valvulitis? I would venture to suggest that it is of congenital origin, and that the whole group, to which it seems to belong, has a similar etiology.

First, clinically when one finds what I have called an "extravagant" murmur with little cardiac enlargement or disturbance, one thinks of congenital heart disease. And this is reasonable, for in such cases an undamaged muscle is driving the blood through sharply defined orifices or against clean-cut obstacles. The stenotic murmur in this group is, in Dr. Gallivardin's words, "intense, rude, râpeux," even "énorme," and is much louder and more widely audible in this boy than in the cases of acquired aortic stenosis of later life to which one is accustomed. The only comparable aortic stenotic murmur I have met with was in another young male of 19 who had recently been passed as a first-class life on account of his healthy appearance and freedom from symptoms.

Secondly, there seems to be a series of similar cases reported in children, and these have been generally diagnosed as congenital. My patient's lesion was detected at 11. One of Dr. Gallivardin's cases was declared to have heart trouble at 7 or 8. MM. Queyrat and Mouquin describe an apparently identical condition in a boy 5 years and 8 months old which they call congenital, and in the discussion upon it M. Barié recalled a case observed in a child by himself, and quoted another which had been reported on at 4 years of age.[3]

Thirdly, lesions capable of causing such signs, though rare, are known to morbid anatomists. Apart from coarctation of the aorta and aortic hyperplasia, which do not concern us here, there are three forms of congenital aortic narrowing—namely, (1) subvalvular aortic stenosis, a few millimetres below the valves, which, unless endocarditis supervenes, allows of survival to adult life with few or no symptoms, but with the physical signs of aortic stenosis; (2) stenosis due to prenatal valvulitis, seldom surviving birth, although, as Hirschfelder suggests, "probably many of the milder cases escape detection";[4] and (3) stenosis due to valvular malformation, which, if valvulitis does not follow, is compatible with many years of life. Peacock says: "I have seen only two valves at the aortic orifice occasionally in persons who have died in advanced life, and frequently in middle age, without the segments having presented any appearances of more recent disease; and similar facts have been noted by others."[5] Such a condition (two valves only) would seem capable of accounting for a loud systolic murmur, a retained second sound, and a much slighter diastolic murmur, as in the case before us. It is less easy to imagine the same picture being presented by the result of post-natal valvulitis.

Lastly, although in my case I cannot prove that the lesion is congenital, I can find no history of any condition known to produce valvulitis. The enlarged tonsil might be held to indicate some chronic infection, but we have no evidence that it antedated the murmur. The glands in the neck were probably tuberculous, seeing that his mother and brother died of phthisis. In Dr. Gallivardin's cases I can find no proof that the murmurs described had not dated from birth, and it seems safer to assign a known origin than to invoke an unknown one.

The question is by no means merely academic. If chronic valvulitis is responsible for the condition we must fear its continuance. If a malformation is the cause, provided valvulitis does not supervene, we may hope for many years of life. Although at the moment we cannot come to any final conclusion, it seems worth while raising the point, in order that our congenital aortic stenoses may perhaps be more persistently followed, and that, in the rare opportunities of autopsy, attention may be more closely directed to the possibility of congenital defect.

REFERENCES.

[1] "Rétrécissement aortique non-rhumatismal des jeunes sujets," par L. Gallivardin, Médecin des Hôpitaux de Lyon, *Presse Médicale*, 19 Mars, 1921.

[2] Vaquez and Bordet: The Heart and the Aorta, Translation, Yale University Press, 1920, p. 131.

[3] *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris*, 21 Juillet, 1921, p. 1152 et seq.

[4] *Diseases of the Heart and Aorta*, Philadelphia and London, 1918, p. 556.

[5] Peacock: *Malformations of the Heart*, London, 1866, p. 187.

OBSERVATIONS ON TWO AND A HALF YEARS' ANTENATAL WORK.

BY

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My object in recording these observations is to show the great value of the antenatal clinic as an educational factor and its possibilities from the point of view of preventive medicine. My remarks are directed to such cases of pregnancy as are commonly classed as normal, for the value of the antenatal clinic in the early diagnosis of gross abnormality has already been sufficiently emphasized in current medical literature. It has been estimated that 40 per cent. of women out-patients suffer from some form of ill health directly or indirectly due to child-bearing. My experience has convinced me that a large part of this ill health is due to neglect of the so-called minor maladies of pregnancy, and that its prevention is largely a matter of patient individual teaching such as can be carried out at antenatal clinics. Of 138 cases 42.8 per cent. suffered from constipation, 36.5 per cent. from flatulence and heartburn, 31.7 per cent. from varicose veins (severe), and 52.38 per cent. from vomiting. The milder degrees of vomiting were not always entered. Out of 300 mothers whom I personally interrogated, 67, or 22.3 per cent., had never once vomited during pregnancy.

All these women received detailed teaching on hygiene—principally on clothing, diet, and exercise; no medicines were advised except such as can fairly be called "domestic remedies," in order that the antenatal clinic might retain its character as a teaching centre and not encroach in the slightest degree on the province of the general practitioner. Had any case not responded to these simple measures she would have been referred to her own doctor; but out of over 200 cases seen during two and a half years this necessity did not arise, though in some the vomiting was severe enough to interfere with sleep and materially to affect nutrition. In marked numerical contrast to the above figures are the more serious disorders which were treated apart from the clinic and exclusive of venereal disease—namely, there were four cases of contracted pelvis and one of albuminuria.

But apart from improving the health of individual mothers and babies, we are all keenly aware of the need for research in antenatal physiology and pathology. We need statistics on conceptional rate, on intrauterine death rate (both foetal and full-term), and on still-birth rate, as well as what has been called intranatal and neonatal death rates. We need, too, both analytical and experimental statistics on the effect of different toxins, *x* rays, etc., on the germ cell or on the foetus at all stages of its development. Clinics efficiently equipped

and staffed for such work can be founded and carried on only at great financial cost. Moreover, were such an institution built and endowed in every large town in the country it is only a very small percentage of pregnant women who would see any advantage to themselves in attending, and they very naturally would decline to submit themselves for examination or leave their homes to enter the wards for prolonged observation from altruistic motives. In short, women will never regard themselves or their unborn children as material for scientific research, and the large number of those who attended would be the grossly abnormal.

But an educational centre run on some such lines as I have described can be organized and maintained almost as easily as an infant welfare centre, and if there were enough of them they would serve a useful purpose in providing opportunity for collecting valuable figures on many points besides the few I have referred to—such, for instance, as the effect of different occupations and of the number and frequency of pregnancies on labour and on lactation, and the relation between various menstrual disorders and fertility. Finally, they would form invaluable collecting centres from whence special cases could be sent to the larger and more fully equipped clinics.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE AXIS OF ASTIGMATISM AND ITS LOCATION.

SOME time ago, in the BRITISH MEDICAL JOURNAL, there was a discussion on the difficulty of finding the axis of astigmatism and on the trouble required to locate it exactly in children and in those on whose answers one could not rely. The simple apparatus here described works well, looks neat, and adds very little to the weight of the trial frames. It will turn the cylinder while the operator is some distance from the patient, and the adjustment is so fine that this can be done five times for each division on the scale. It can be fitted to any trial frame which has a vertical bar for the nose-piece, and can be attached or removed instantly.

The attachment is on the Bowden wire principle, and consists essentially of a flexible wire moving through the centre of a flexible tube formed of a long coil of fine wire. The latter is shorter than the flex, and this difference regulates the amount of movement which can be obtained afterwards. The tube is fastened to the screw of the nose-piece, from which it takes its fixed point, and its end, near the operator, terminates in a collar which is gripped between his first and second fingers. The near end of the flex is kept projecting from the coil by a weak spring, and terminates in a flat piece to take the pressure of the thumb. The distant end of the flex is joined to a clip, which grips the rim of the cylinder firmly, and this joint is really an axle, as the clip must turn over to deal with the other eye.

In subjective testing I use it to rotate the final cylinder, when the axis has been approximately found, and the rotation obtained with my present attachment—which has a movement of three-quarters of an inch—is 30 degrees. This is ample, as it allows for 15 degrees on either side of the approximate axis, while at the same time the patient is not disturbed nor his judgement biased by any manipulation of the trial frame. The movement is smooth, and can be reversed at any time, simply by releasing the pressure of the thumb, when the reversing takes place immediately, there being no back-lash, such as occurs in rotation produced by means of a milled wheel.

It is in retinoscopy, however, that its greatest advantages appear. Here one corrects the meridian of least refraction, and, noting the band of light which shows the axis approximately, cylinders are placed with their axes over that until correction is attained. This last cylinder is removed, and a weaker one substituted. If now this cylinder has been placed with its axis over the original bright band, the latter will appear to be in exactly the same place as before, and the mark on the glass will indicate the axis exactly. If the axis has not been placed exactly over the bright band the latter will appear to be considerably displaced to one side or the other, and a small error in placing the axis produces a much greater displacement of the bright band. For instance, an error of, say, 5 degrees in the axis of this cylinder will change the band from, say, 90 to 75 or 105. This setting of the axis is the tedious part, and has to be done by trial and error; it often requires three or four attempts before satisfaction is attained, the chief cause of trouble being the loss of the bright band as one stoops forward to rotate the cylinder, and the fact that it is no longer sharp and well defined. It is here that the mechanical rotator is so useful, as one clips the cylinder, and, sitting back at the full distance, rotates it first one way, then the other; and, as one never loses sight of the band, one can follow its displacement very rapidly, and quickly find the right position. It is best to clip the cylinder with the spring half compressed, as release will then rotate the glass in one direction, while further compression will do so in the opposite.

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FRACTURE IN OSTEITIS DEFORMANS.

THE case of osteitis deformans reported by Drs. Lindsay and Gordon in the JOURNAL of April 29th (p. 678) reminds me of a patient seen by me about four years ago. A man aged 51, with well-marked osteitis deformans of the right tibia, slipped whilst walking on a greasy road. At the time he had a stout stick between his legs, which probably acted as a lever, for when picked up he was found to have fractured his right leg. The line of fracture was through the thickness of the head of the tibia just below the tuberosity, and was as horizontal as if it had been done by an osteotome. There was little or no displacement. The leg was put up in a back splint, and after six or seven weeks showed no signs of uniting. It was then put in a Croft plaster splint and massaged, and at the end of six weeks union seemed firm enough to suggest careful trial of the leg. About three weeks later he was showing me what he could do in the way of standing when I heard a loud snap, and it was clear that the union had given way. The leg was again immobilized for several weeks, and as the union still seemed doubtful I asked the late Sir Alfred Pearce Gould to see the patient; he thought that unless union could be induced amputation might be necessary. Meanwhile the leg was put in a calliper splint on the advice of Mr. Gordon Taylor, who said that union in this class of case might take a year and still be possible, and we hoped for the best. Fortunately union did eventually occur, and the man is now going about without apparatus, but with a stiff knee.

The left leg and both forearms were slightly affected by osteitis deformans, but there was no sign of that condition in the skull. There was no history of syphilis. For some years he had suffered from night blindness and retinitis pigmentosa, and most of his life he had had extensive psoriasis, which at one time took on an acute pityriasis form (he had not a square inch of normal skin) and kept him bedridden for about ten weeks. Otherwise he had had no serious illness. Not many cases of osteitis deformans are met with in general practice, but the few I have seen all seemed to have uncommonly hard stout bones—bones which one would never expect to break, and least of all through the thickest part. I suppose the pathological condition of the bone explains the delayed union in my case, but for the comfort of anyone else who happens to have to deal with such a case and gets despondent over the long delay, it seems worth while to report mine.

Brondesbury, N.W. J. ANDERSON SMITH, M.D.

FRACTURE OF TERMINAL PHALANX OF FINGER.

IN the BRITISH MEDICAL JOURNAL of January 21st, 1922, which has just reached me, I notice a memorandum (p. 101) by Dr. J. N. Laird on the subject of fracture of the terminal phalanx of a finger. As he states that he is unable to find any previous description of such a condition, I feel constrained to place on record my own case.

In 1915, while effecting a tackle at Rugby football, I sustained a sudden injury to my left middle finger, which became swollen and painful in the region of the distal interphalangeal joint. As I thought that only the soft tissues had sustained trauma, I took little notice of it, and, in fact, played golf the next day. Finding there was little improvement at the end of a week I had a skiagram taken and the condition shown was almost precisely similar to that described by Dr. Laird, the only difference being that in my case the fragment of bone was slightly larger.

Treatment, as advised by Mr. Harold Wilson, consisted in wearing for three weeks a glove on the palmar aspect of which was sewn a narrow piece of cane running from the tip of the middle finger to near the wrist, an effective splint being thus formed. Save for a slight overgrowth of callus and a very little loss of flexion at the joint concerned the result was perfect.

Kakamega, Kenya Colony. C. VINEY BRAIMBRIDGE.

HAEMORRHAGIC COLITIS.

HAVING read with interest the recent communications on the subject of haemorrhagic colitis I should like to emphasize the importance of sigmoidoscopy in the diagnosis of such conditions. In true haemorrhagic colitis lesions in the pelvic colon can be demonstrated by means of the sigmoidoscope, and the rectum itself may or may not be affected. On the other hand, the patient may have the symptoms of haemorrhagic colitis and yet the sigmoidoscope may reveal a lesion confined to the rectal mucous membrane, that of the pelvic colon being unaffected, the condition being essentially "haemorrhagic proctitis." The treatment of these two conditions differs in some respects: haemorrhagic colitis usually requires appendicostomy with irrigation of the colon, whereas haemorrhagic proctitis may be successfully treated by local irrigation of the rectum. In both varieties I have found a course of zinc oxide given internally useful as an intestinal astringent. To illustrate these two varieties I may mention the following cases, which came under my care in the out-patients' department at St. Mark's Hospital.

CASE I.—*Haemorrhagic Colitis.*

Female, aged 26. History of passing large quantities of blood with mucus and pus from the rectum for two months. The patient was anaemic. Tenderness was present along the line of the colon, especially in the left iliac and pelvic regions.

Sigmoidoscopy showed oedema of the mucous membrane of the pelvic colon, which was very vascular and bled profusely. Sloughs were present on the mucous membrane. The rectal mucous membrane was only affected to a very slight degree. Numerous cocci, chiefly streptococci, were present in the faeces.

The patient was admitted to hospital, and appendicostomy was performed. There was severe haemorrhage from the bowel both before and for a few days after the operation. The bowel was irrigated daily with a solution of hazeline (2 drachms to the pint). A course of autogenous vaccine, prepared from the faeces, was given, and later on a course of zinc oxide when the acute symptoms had subsided, but small quantities of blood and mucus were still being passed. The patient has been under observation since leaving hospital, and at the present time (some twelve months after operation) she is in good health and only passes a small amount of mucus occasionally.

CASE II.—*Haemorrhagic Proctitis.*

Female, aged 31. History of passing blood and mucus sixteen months previously. This attack subsided, but severe symptoms recurred after an attack of influenza.

Sigmoidoscopy revealed a swollen, very vascular and granular condition of the rectal mucous membrane. The lesion was entirely confined to the rectum, the mucous membrane of the pelvic colon being normal in appearance. The case responded to treatment by daily rectal irrigation with flavine (1 in 1,000), and a course of zinc oxide given internally.

LIONEL E. C. NORBURY, F.R.C.S.,
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ELEPHANTIASIS OF THE LABIUM.

THE following case is reported for the reason that elephantiasis of the labium is rare in Siam, a country where filarial infection is common and elephantoid complications not infrequent. It is the first case I have observed during several years' tropical experience. Another interesting feature in connexion with this case was the presence at all times of microfilaria in the peripheral circulation. This observation is not in accord with that of other tropical workers (Manson, Stitt, Bahr), who state that sufferers from elephantiasis fail to show larvae in the peripheral circulation.

The patient, a Eurasian woman about 20 years old, had first noticed six months previously a small swelling on the left labium majora that gradually increased in size. She came under observation for the first time early in July, complaining of great discomfort in walking, but had had no pain and absolutely refused operation. She at that time registered a daily temperature ranging from 99° to 101° F. Careful blood examination failed to reveal a malarial infection and a diagnosis of filarial fever was made.

The patient refused all treatment until about a month later she again came under observation complaining of acute pain in the affected part. The tumour mass was found to have greatly increased in size, and was beginning to ulcerate at the base. This time the patient consented to operation, the result being quite satisfactory, even to the complete disappearance of the abnormal temperature, although microfilaria can at this time still be demonstrated in the general blood stream.

The tumour weighed 7 lb., and on section consisted of a thick mass of yellow fatty substance that poured forth large amounts of lymph. Thick fibrous strands divided the mass into many sections that contained dilated and greatly thickened blood vessels.

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Reports of Societies.

RECTO-VAGINAL ADENOMYOMA.

A MEETING of the North of England Obstetrical and Gynaecological Society was held in Manchester on May 5th, with the President, Mr. H. CLIFFORD, in the chair.

Dr. A. DONALD (Manchester) read a short paper on adenomyoma of the recto-vaginal space associated with cystic ovarian tumours with tarry or chocolate contents. He reported five cases of recto-vaginal adenomyoma on which he had operated within a period of twelve weeks. In three cases panhysterectomy had been performed, in one double salpingo-oöphorectomy with removal of a nodule from the posterior aspect of the cervix, and in the remaining case removal of a hard growth from the anterior wall of the rectum after separation of adhesions. In three of the five cases the ovaries contained cysts with tarry or chocolate-coloured fluid. For some years he had been puzzled by these cysts and had gradually formed the opinion on clinical grounds that they were not due merely to an accidental effusion of blood into a cyst, but were really adenomyomata of the ovary. His reasons for this opinion were as follows: the cysts were generally adherent and in many cases had to be dug out of the back of the broad ligament or the side and back of the pelvic cavity; they had the faculty of burrowing into tissues and of contracting very firm adhesions; the contents resembled exactly the thick tenacious brown fluid that was found in haematocolpos and haematometra and in smaller quantities in the gland spaces of adenomyomata; and there was always acute dysmenorrhoea during the first two days of menstruation. He was anxious to have this theory confirmed by the pathologists, but so far from the specimens he had obtained he had not succeeded in finding a slide showing a glandular lining of endometrial type. Pathological support was now coming quickly. He quoted cases mentioned by Lockyer and Cullen of ovaries which contained islands of uterine tissue, six in all, and finally referred to an abstract published in the BRITISH MEDICAL JOURNAL of February 4th, 1922 (Epitome, No. 117), of a paper contributed by Sampson to the *American Journal of Obstetrics* on "Perforating haemorrhagic cysts of the ovary." Sampson believed that these cysts were haematomata of endometrial type and gave reasons for this opinion; he believed also that the material escaping from the cysts might give rise to widespread adenomyomata. Dr. Donald thought it was interesting that on purely clinical grounds he should have formed an hypothesis similar to that reached by pathological research.

Chronic Endocervicitis.

Dr. J. W. BURNS (Liverpool) read a paper on chronic endocervicitis and its treatment. He had made a close study of the bacteriology, pathology, and treatment of this condition in eighty-four cases, and had reached the following conclusions: (1) Chronic endocervicitis should be recognized as a distinct pathological entity apart from endometritis. (2) Any discharge from the vagina which induced discomfort in the patient was pathological and usually due to chronic infection of the cervical canal. (3) That the condition was an infective one was proved by the fact that a positive culture could be obtained in 92 per cent. of cases. In 50 per cent. the staphylococcus, either alone or in association with some other organism, was present. (4) Applications of various drugs, douching, tamponnage, etc., only gave temporary relief because the antiseptics did not reach the infecting agent in the lumen of the glands. (5) Ionization brought about a marked improvement in those cases where no erosion was present. (6) For those cases associated with erosion the only successful method of treatment was the removal of the lower two-thirds of the cervical canal including the erosion.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A CLINICAL meeting of the West London Medico-Chirurgical Society was held at the West London Hospital on May 5th, with Sir G. LENTHAL CHEATLE, the President, in the chair.

Mr. O. L. ADDISON showed a case of chronic empyema in a young girl. Repeated operations had been performed with a view to closing the sinus, including the removal of the ribs overlying the cavity drained by the sinus. These had all proved useless. He had therefore freely opened the chest

and decorticated the lung over an extensive area. The result had been a complete success.

Mr. D. DENHAM PINNOCK showed a well-marked case of osteochondritis coxae in a boy. He thought that trauma was probably responsible for the condition. In a discussion on the case, Mr. O. L. ADDISON said that in his experience the treatment of the condition did not cause any anxiety, as he had seen cases in which radiography had shown marked changes in the head of the femur recover completely by simple splinting of the hip-joint. Mr. PINNOCK also showed a boy with pronounced coxa vara on both sides, probably due to late rickets. Walking had been difficult owing to "scissor leg" deformity. He had performed subtrochanteric osteotomy on one side, and the child now walked well with only a slight limp. Skiagrams were shown illustrating the condition both before and after operation.

Mr. NEIL SINCLAIR showed a case of actinomycosis of the mandible and cheek in a woman; the condition was responding well to large doses of potassium iodide after removal of several carious teeth.

Mr. RODNEY MAINGOT showed a case in which diaphysectomy of the lower third of the femur had been performed for acute osteomyelitis. Complete regeneration of the bone had taken place, and no shortening of the limb had resulted.

Other cases of interest were shown by Dr. L. C. BURRELL, Dr. J. BURNFORD, and Mr. B. SANGSTER SIMMONDS.

MEDICAL ASPECTS OF PENOLOGY.

AT a meeting of the London Association of the Medical Women's Federation held on May 16th at the Elizabeth Garrett Anderson Hospital, London, when the President, Dr. L. M. MARTINDALE, was in the chair, Miss MARGERY FRY, J.P., honorary secretary of the Penal Reform League, spoke on the medical aspects of penology. There was, she said, a need for women with special training in psychology to act as prison medical officers, and also for more skilled nursing in many prison hospitals. She emphasized, however, that there was a much wider field for trained medical minds in the whole treatment of criminals than that afforded by the old conception of the prison medical officer as the man or woman who looked after the physical health of prisoners undergoing punishment. Whilst the lawyer was called upon to say, "What has this man done?" the doctor ought to be called upon to say, "What is to be done with this man?" Only when the causes of crime were studied in a really scientific spirit was there any hope that true remedies for crime would be discovered and applied. Already under the Birmingham scheme certain classes of criminals—for example, those repeating the same offence again and again without apparent motive—were being individually examined with a view to appropriate treatment. Miss Fry pleaded for a wider study from the medical point of view of the problems of criminology, urging that the present treatment in prisons was unscientific and therefore wasteful. A short paper by Dr. MARY GORDON on the same subject was read in her absence by Dr. CONSTANCE LONG, and a discussion followed in which Mrs. SCHARLIEB, Dr. MARY BELL, Dr. MINA DOBBIE, Dr. CHRISTINE MURRELL, and others took part.

LIFE TABLES.

AT a meeting of the Royal Statistical Society in the hall of the Royal Society of Arts, on May 16th, with the President, Sir R. HENRY REW, in the chair, Dr. MAJOR GREENWOOD opened a discussion on the scientific value of life tables. Dr. Greenwood submitted that the value of a life table as an instrument of research had been somewhat overestimated, and that the opinion that important deductions could be drawn from local life tables which were not deducible from the death rates at ages was mistaken. A life table was an artificial product; its population was a fiction. It was not correct, for instance, to say that the average length of life of an English male was given by the "expectation of life" of any national table. An "expectation of life" was deduced from the rates of mortality of contemporaneously observed lives and the comparison of such constants for different life tables was open to numerous criticisms. In Dr. Greenwood's opinion, a medical officer of health would learn little more from a life table than from death rates at ages.

DR. CARTEADO MENA has been elected president of the Portuguese Medical Association.

THE annual meeting of the German Ophthalmological Society will be held at Jena from June 8th to 10th. Further information can be obtained from the secretary, Professor Henker, Bismarckstrasse 17, Jena.

Reviews.

VITAMINS.

The Vitamins,[1] by Professor H. C. SHERMAN and Dr. S. L. SMITH, is one of an excellent series of monographs on scientific and technological subjects published by the American Chemical Society. They have two purposes: first, to present the knowledge available upon a chosen topic in a readable form intelligible to those whose activities may be along a wholly different line; and secondly, to furnish a well-digested survey of the progress already made in a particular field, and to indicate directions in which investigation needs to be extended.

The volume under review fulfils both of these purposes. It is divided into five chapters—namely, an historical introduction, three chapters devoted to the three different vitamins, and a final chapter dealing with the vitamin supply in normal diets; there is also a bibliography containing about a thousand carefully selected references.

The general reader will probably be most interested in the final chapter, for in this the authors discuss the question how an adequate supply of vitamins in the human diet can be ensured. The discussion is of necessity rather vague, for we have very little information as to the quantities of the various vitamins which are necessary to maintain health in man, and we have no accurate quantitative knowledge of the vitamin content of foods. Many interesting observations are made, however, as to the relative value of foods as sources of vitamins. The superiority of milk over meat in this respect is emphasized and the importance of vegetables and fruits is also very clearly shown. The practical suggestion is hazarded that in a normal family in order to ensure a dietary fairly balanced as regards mineral elements and vitamins at least as much should be spent on vegetables and fruit as upon meat and fish, and at least as much upon milk in its various forms as on all forms of flesh food. Calculations of this nature must of necessity be very vague, but these provisional attempts to estimate what diets are likely to provide an adequate vitamin supply are of very great general interest.

Those who are engaged upon research work on vitamins will find that the three chapters devoted to the three vitamins contain a clear and concise account of all the more important work which has been done, and that a particularly full account is given of the knowledge available concerning the chemical and physical properties of vitamins. Such workers will perhaps welcome most of all the excellent bibliography provided: more than one-half of the thousand references refer to work published in the last four years, and 190 to work which appeared in 1921. This means that the present output in vitamin literature is a paper every other day. These figures indicate better than anything else the great value of monographs such as that before us. It is impossible for anyone to keep in touch with modern scientific literature except along one particular line. Hence the only way in which the evils of narrow specialization can be avoided is by the study of monographs of the type of this.

FUNCTIONAL NERVOUS DISORDERS.

OF books dealing with the various different aspects of functional nervous disease the number is legion, and it is not easy either to express any original opinions or to compress the current views of theory and practice into a concise form. Dr. CORE[2] may, at any rate, be congratulated on the production of a volume much of which is original, though we fear that its size and the somewhat verbose nature of its method may militate considerably against any wide diffusion of his opinions. Much of his nomenclature, again, is unfamiliar, and his classification also. Hence the reader who desires really to profit by this book would do well to study the preface carefully.

In a short review it is impossible to enter fully into all the opinions expressed in the book. The functional nervous disorders are classified broadly into two main groups: (1) Regressive—that is, hysteria, which is again subdivided into

[1] *The Vitamins*. By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, U.S. Department of Agriculture. The American Chemical Society Monograph Series. New York: The Chemical Catalog Company, Inc. 1922. (Med. 8vo, pp. 265; 20 figures. 4 dollars net.)

[2] *Functional Nervous Disorders: Their Classification and Treatment*. By Donald E. Core, M.D.Manch., M.R.C.P. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1922. (Med. 8vo, pp. xii+371; 21 figures. 25s. net.)

primary, secondary, and tertiary; and (2) progressive or sympathetic functional nervous disorders; these are subdivided into two groups, the instinct distortion neuroses and the memory or mnemo-neuroses. Those who follow the author carefully in his reasoning will find much that is valuable and attractive in this classification.

The first three chapters are devoted to some general considerations, where the psychology of animals and that of man is compared in their evolutionary and environmental aspects. The regressive group of disorders, hysteria in its different clinical forms, are considered in detail in the second part of the book. The second great group, the progressive or sympathetic nervous disorders, are then fully described. The reader will perhaps be surprised to learn of the characteristic association of a mnemoneurosis with a raised blood pressure and to find the view expressed that a mnemoneurosis is a prodromal phase of arterial degeneration. The subject of dreams and the much-vexed question of the sex instinct as an etiological factor are discussed in a separate chapter. Chapters on diagnosis, prognosis, and treatment complete the book.

The author has wisely included a summary of contents at the end of each chapter, for his style is not easy and his nomenclature will add to the difficulties of any reader not familiar with psychological literature. As a whole the book is altogether too prolix, while the form of its expression is unnecessarily verbose. These are unfortunate faults, for there is much that is very valuable in the author's conclusions, which have obviously been reached as the results of careful and painstaking study.

GLAUCOMA.

THE fact that a second edition of ELLIOT'S *Treatise on Glaucoma*[3] has been called for within four years of the publication of the first proves that the book has been appreciated. Its general characters are well known to all who have perused the earlier edition; the author adopts the attitude of a student who seeks by a survey of the literature, and from his clinical and pathological knowledge of the disease, to bring some sort of order out of the chaos which even now surrounds his subject.

We think Colonel Elliot is right in regarding his book not quite as a textbook, in which, more often than not, a dogmatic attitude is adopted intentionally by the author, but rather as a treatise in which everyone is given a fair hearing, and the reader is left to draw his own conclusions.

The new edition has been brought up to date; some parts of it have been rewritten and additions have been made, fresh papers on the subject up to January, 1922, having been laid under contribution. The result is a bulky volume which will be of great value to ophthalmic surgeons throughout the English-speaking world, and also to those students who are studying for the higher degrees and diplomas in ophthalmology.

A feature of the book is the valuable bibliography provided at the end of each section or chapter; the full index of authors and subjects completes a work which is a noteworthy contribution to the literature of its subject. The publishers have done their share in its production excellently.

RADIOGRAPHY.

IN *The Principles of Radiography*,[4] Dr. J. A. CROWTHER, the lecturer in physics applied to medical radiology in the University of Cambridge, has endeavoured to give an intelligible but non-mathematical account of the physical principles involved in the production of a radiogram, and in the construction and use of the apparatus employed for the purpose. It is based on the lectures given to students for the D.M.R.E. Cambridge, and fills what has been a distinct want, inasmuch as the ordinary textbooks of physics are not primarily concerned with the needs of medical men who specialize in radiography. In general construction the book is divided into ten chapters, which deal successively with electrical phenomena, the electric current, the induction of currents, electricity in gases, x rays, the x-ray tube, the production of high-tension currents, the x-ray installation, the making of a radiogram, and the localization of foreign bodies. It is all written in very simple language, and the diagrams are adequate to illustrate various points which otherwise might not be easy to understand. There are also a few radiographic reproductions, but it is unfortunate that one of these is described as showing a fracture of the humerus, whereas in reality it seems to be a fracture of the lower end of the femur. We note that in two places it is stated that the discovery of x rays was made by Röntgen in 1894, but it should be remembered that the paper announcing the discovery appeared in December, 1895. The chapter on the localization of foreign bodies is somewhat inadequate, and the simplest of all methods, by a single shift of the tube after first of all centring on the foreign body, is not explained. In any future edition this chapter should certainly be revised. As a whole the book fulfils its purpose, and should be useful to those commencing the study of radiology.

L'Emploi des Rayons X en Médecine,[5] by Dr. PAUL DUHEM, is a book which in a short and concise manner covers the whole ground of x-ray work from the points of view of instrumentation, diagnosis, and treatment. In effect it is a general statement as to the position of x rays in medical work, and is obviously intended rather for the student and general practitioner than the specialist. The illustrations are almost entirely diagrammatic. It is one of a series—"Bibliothèque des Connaissances Médicales"—appearing under the editorship of Dr. Apert.

The *First Aid X-ray Atlas of the Arteries*,[6] by Mr. H. C. ORRIN, consists of nine plates, reproductions of radiographs of the various arteries injected with an opaque material, and a short account of each plate. It is intended for lecturers on first aid, and will be of value to them in teaching the arterial system to their students.

THE DEVON AND EXETER HOSPITAL.

DR. HARRIS'S *History of the Royal Devon and Exeter Hospital*[7] is a valuable work. It records minutely, from year to year, the growth and development of an important medical charity in all its departments, from its foundation in 1741 to the year 1905. The book is full of interesting information on administration and finance, on the honorary staff and their work, on the paid staff, the nursing, and the story of the medical school. It is replete with biographies of benefactors, medical officers, and others, and contains many anecdotes and valuable pictures of the times.

The record presented is a notable one. The institution was the second provincial hospital established in England, owing its foundation to the same man who founded the first. Dean Clarke, when Prebendary of Winchester, had established in 1736 the present Royal Hants County Hospital, and, although he was a sick man when appointed Dean of Exeter, he lost no time in setting on foot a scheme for a large hospital there also. The present Royal Devon and Exeter Hospital was founded by him in 1741, but unhappily before its opening two years later the Dean was dead. The impetus he gave outlived him, as we see from the foundation in Exeter in 1808 of the first eye hospital in England outside London, and that only four years later than the foundation of Moorfields itself.

The Dean's generous co-founder, Mr. John Tuckfield (who by the way was thrice Member of Parliament for Exeter) the donor of the land on which the hospital is built, also left an enduring example. For, as this book shows, the charity has been singularly fortunate in the loyalty and generosity of the support accorded to it both by county and city. Some years ago, when the question arose of economy by closing some wards, one of the staff was able to show that it was the most richly endowed hospital of its size and sort in England, and the wards remained open.

A benefactor of its early days, whose portrait hangs in the boardroom, near those of Dean Clarke and Mr. Tuckfield, was Mr. Ralph Allen, the friend of Fielding, believed to be the original of Squire Allworthy in *Tom Jones*. In connexion with this may be mentioned the fact, which Dr. Harris

[3] *A Treatise on Glaucoma*. By R. H. Elliot, M.D., B.S.Lond., Sc.D.Edin., F.R.C.S.Eng., Lieutenant-Colonel I.M.S. (retired). Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. 1922. (Demy 8vo, pp. xxii + 656; 213 figures and frontispiece. 30s. net.)

[4] *The Principles of Radiography*. By J. A. Crowther, M.A., Sc.D., F. Inst. P. London: J. and A. Churchill. 1922. (Demy 8vo, pp. vi + 138; 55 figures. 7s. 6d. net.)

[5] *L'Emploi des Rayons X en Médecine*. By Paul Duhem. Paris: Ernest Flammarion. 1922. (Cr. 8vo, pp. 302; 67 figures. Paper covers, 10 francs.)

[6] *First Aid X-ray Atlas of the Arteries*. By H. C. Orrin, O.B.E., F.R.C.S.Edin. London: Baillière, Tindall, and Cox. 1922. (Pott 8vo, pp. viii × 47; 9 plates, 11 figures. 2s. 6d. net.)

[7] *The Royal Devon and Exeter Hospital*. By J. Delpratt Harris, M.D. Exeter: Eland Brothers. 1922. (Demy 8vo, pp. 205; illustrated. 5s.)

relates, that one of the staff, a Dr. Rhodes, was the son of the lady supposed to have been the original of Sophia in the same famous novel. There seems no doubt that Fielding fell deeply in love with her, but the lady he ultimately married is said by some to have been the real Sophia.

Dr. Harris's interesting speculations on the origin of the great philanthropic movement of the eighteenth century in England omits one powerful factor emphasized by John Richard Green—namely, the wonderful and widely carried mission of the Oxford men who clustered round John and Charles Wesley. Dean Clarke, however, though he must have been influenced by this Oxford movement, was himself a Cambridge man, a Fellow of Corpus.

The staff of the hospital, whose careers, where possible, are carefully sketched, have been a distinguished body of men. Two have been Fellows of the Royal Society—namely, Dr. Bartholomew Parr, physician 1775 to 1809, who published a bulky *London Medical Dictionary;* and Mr. John Sheldon, surgeon 1797 to 1808, whose book on the *History of the Absorbent System* was considered an excellent piece of work. Two of the physicians also made notable original advances in medical knowledge whose value persists—namely, Dr. John Blackall, physician 1807 to 1847, the forerunner of Bright, who in his work, *Observations on the Nature and Cure of Dropsies,* pointed out the relation between albuminuria and dropsy; and Dr. Thomas Shapter, physician 1847 to 1876, whose volume on the *Climate of South Devon* was a valuable contribution to climatology. One of the surgeons, Mr. John Haddy James (1816 to 1858), was the second to tie the abdominal aorta for aneurysm. It was this surgeon who, with his colleague Mr. Samuel Barnes, established the medical school in Exeter. The staff had always had pupils, but in 1819 more systematic teaching was introduced and a "larger number" of pupils attended. This continued till about 1863, when new regulations for medical education had caused the numbers to decline.

It is interesting to notice how many of the earlier staff had studied abroad—Mr. John Patch in Paris, Dr. Dicker, Dr. Glass, and Dr. Hallett under Boerhaave at Leyden. One of the staff, Dr. Kempe, was an important benefactor of the hospital, building its chapel at his own expense. The library and museum, Dr. Harris tells us, were established in 1813, the nursing training school in 1890.

Two omissions—which, in the huge mass of detail with which he had to deal, have escaped Dr. Harris's attention—must be noted. The one is the inauguration of systematic note-taking of the cases by Mr. Russell Coombe about 1889 when he was senior house-surgeon, and the other the admission of the staff to ample official representation on the Hospital Committee about 1897—a change which has admittedly been of the greatest benefit to the institution.

Dr. Harris has naturally refrained from reference to living officials, but it would be unfair to close this brief notice of the valuable service rendered to the hospital by him as its historian, without mentioning its further debt to him in the organization of the present fine electrical department.

NOTES ON BOOKS.

UNDER the title of *Post-Graduate Lectures*[8] ten lectures to graduates delivered before the Fellowship of Medicine at the house of the Royal Society of Medicine in 1919 and 1920 have just been published. In a preface which he has written for the volume Sir Clifford Allbutt says that the perusal of the lectures will go far to convince the most self-contained practitioner that in our time without periodical class teaching and co-operative practice he cannot efficiently equip himself, nor do full justice to his patients. The subjects of the lectures include: "Syphilis and insanity" and "Morbid mental growths," by the late Sir George Savage; "The prognosis of exophthalmic goitre," by Sir W. Hale-White; "Grave familial jaundice of the newly born," by Sir Humphry Rolleston; "The value of combined treatment, with special reference to surgery, electricity, and *x* rays," by Dr. F. Hernaman-Johnson; "On the after-effects and so-called after-effects of anaesthetics," by Mr. J. D. Mortimer; "Chronic paroxysmal trigeminal neuralgia and its treatment," by Dr. W. Harris; "Pyorrhoea alveolaris and its relationship to disease," by Dr. N. Mutch; "Disabilities of the feet due to static or mechanical causes" and "Deformities and disabilities of the feet due to paralysis," by Mr. W. H. Trethowan. The publication of these lectures is an extension of the work of the Fellowship of Medicine upon which it is to be congratulated. The standard of the lectures is high, and all are well worthy of being given permanence in this form, so that a wider public may now appreciate them. The volume is well printed and produced.

Mr. Hugh Macnaghten, Vice-Provost of Eton College, has written a pamphlet[9] in appreciation of M. Emile Coué and his work. In this he tells how he came to visit the auto-suggestion centre at Nancy in search of relief from insomnia, and describes in some detail the *conférences* held lately by M. Coué in this country. With regard to the formula which has become a household word in almost every stratum of society, the author observes: "We shall therefore, as good children, continue saying 'Every day in every respect I am getting better and better,' though we shall not fail to realize as sane men and women that it is the condition of mind and not the repetition of formulae which is responsible for the daily improvement." The sincerity and literary charm of this pamphlet will be apparent to every reader. Mr. Macnaghten writes with an obvious desire to help others, but in his closing paragraph he seems to admit that after seven weeks' discipleship he is hardly yet in a position to speak with an air of finality about any benefit he himself has received. It is, however, common knowledge that self-confidence is half the battle in overcoming sleeplessness.

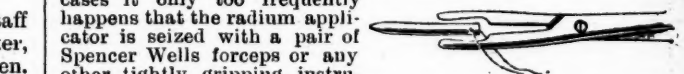
[8] *Post-Graduate Lectures.* With a preface by Sir Clifford Allbutt, P.C., K.C.B., M.D., F.R.S. London: J. Bale, Sons, and Danielsson, Ltd. 1922. (Demy 8vo, pp. xiv+216. 10s. 6d. net.)

[9] *Emile Coué: the Man and His Work.* By Hugh Macnaghten. London: Methuen and Co., Ltd. 1922. (Fcap. 8vo, pp. 52. 2s. net.)

MEDICAL AND SURGICAL APPLIANCES.

Radium Applicator Forceps.

MR. C. P. G. WAKELEY, F.R.C.S.Eng. (Assistant Surgeon, King's College Hospital), writes: The insertion of tubes containing radium is not always quite so simple a matter as may appear at first sight, especially when there is any resistance to be overcome as in the case of fibroid tumours or other firm growths. In such cases it only too frequently happens that the radium applicator is seized with a pair of Spencer Wells forceps or any other tightly gripping instrument that happens to be available, with the inevitable result of damaging the tube. The applicator forceps indicated in the accompanying sketch has been made to my design by Mr. J. H. Montague of 69, New Bond Street, W.1. It holds the radium tube firmly, and, not allowing of lateral movement, does not scratch or otherwise damage the tube.



VENEREAL DISEASE AND SEX EDUCATION.

REPORT BY A SWEDISH GOVERNMENT COMMITTEE.

ACCORDING to the temperament and education of the individual, venereal disease is regarded in widely different lights. It may seem an isolated phenomenon to be prevented by mechanical and chemical means and to be treated by chemical means alone. Or it may be regarded as the culmination of a long series of events to which an almost infinite variety of forces have contributed. Of both views there are eloquent exponents in this country. It is, however, conceivable that more knowledge may be gained by observing how the problem is dealt with abroad than by concentrating attention on its controversial discussion at home. The problem is, indeed, the same at home and abroad, but the solutions proposed are not always identical. The framers of the Swedish venereal disease law of 1918 had a lively sense of the importance of general enlightenment with regard to venereal disease and germane subjects, such as sex hygiene, and they explicitly stated that provision must be made for such enlightenment. In accordance with this injunction a Committee was appointed, in October, 1918, consisting of experts in medicine and pedagogy, to investigate the ways and means by which popular enlightenment might best be provided. Their Report,[1] recently issued, is a document of considerable value, promising to become the charter of a new and complete system of sex education and hygiene in schools throughout Sweden.

The Education of the Child.

In their introductory remarks the signatories point out that the recent venereal disease law recognized and specifically referred to the need for education of the public with regard to venereal disease and its consequences, but no definite lines

[1] Betänkande Angaende Åtgärder för Spridande av Kunskap om Könssjukdomarnas Natur och Smittfarlighet M. M. Stockholm. 1921; pp. 232.

were laid down as to the detailed course to be pursued. To sound school teachers on this point the Committee addressed a set of questions to various teaching institutions throughout Sweden, and the answers they obtained are analysed in a supplement of the Report. Much of the Report is concerned with a detailed and comprehensive scheme of sex education, extending from the pre-school age to adult life. It is illustrative of the broad view taken by the Committee of their task that they deal with the education of the child from the time it learns to speak and address inquiries as to how it came into the world. The Committee look forward to the time when parents will be so enlightened that they will not tell their children silly stories about babies being brought into the home by storks, but will give a simple account which the child in later years will not discover to be mendacious. The Committee hope that the child, who is gradually taught more and more about sex hygiene as it passes from one school grade to another, will eventually become a parent wise enough to instil in the next generation a frank and healthy attitude towards sex problems. Parents, it is hoped, will learn to protect their infants from the undesirable caresses and kisses of strangers, and to discourage a child from sharing a bed with other children or adults. As for sex teaching in school, this should be associated with the teaching of biology, Christianity, sociology, and psychology. The question of venereal disease should not come into the curriculum until comparatively late, and until the physiology of fertilization and reproduction has been fully taught. Advanced sex teaching should preferably be in the hands of doctors, but they are not always available, in which case other teachers should give instruction on this subject, male teachers dealing with boys and female teachers with girls. Teaching of sex hygiene in high schools for girls should include the subject of venereal disease, and special emphasis should be laid on the protection of infants from infection. A further recommendation is that a carefully supervised library of works on sex hygiene and venereal disease should be compiled at the cost of the State for the use of teachers and classes.

Personal Prophylaxis: Minority Report.

The law of 1918 indicated the need for teaching the public how to prevent spread of infection, and in attempting to follow this injunction the Committee have encountered the same difficulties experienced in every other country in which personal prophylaxis has been discussed. One of the members of the Committee, C. K. S. Sprinchorn, Rector and Doctor of Philosophy, who has contributed a comprehensive survey of the campaign against venereal disease in many different countries, and has published this survey in the form of a supplement to the Report, has not been able to agree with his colleagues over the matter of personal prophylaxis, and he has accordingly published a short Minority Report on this point. In this he argues that at one and the same time to teach the rising generation a high standard of ethical and moral responsibility and to give instruction how to evade the consequences of immorality is to land the teacher on the horns of a dilemma. He notes that recruits in the Swedish army are given compulsory training in prophylaxis, and that by this means knowledge of such prophylaxis will gradually be acquired by the whole male population. There are also several other means already available by which such knowledge can be gained, and he is disinclined to push the teaching of prophylaxis in further detail till the effects of measures already in force can be gauged.

Personal Prophylaxis: Majority Report.

Like Dr. Sprinchorn, the other members of the Committee regard the question of personal prophylaxis as a most delicate subject, concerning which it is not possible to walk too warily. They deputed one of their members, Dr. Karl Marcus, medical superintendent of St. Göran's Hospital, and lecturer on venereal disease, to prepare a separate report dealing with the purely medical aspect. Commenting on this supplement the sponsors of the Majority Report seem to agree as to the desirability of issuing pamphlets and other publications, detailing the merits and technique of personal prophylaxis, but they insist that in their scheme of sex education the teaching of personal prophylaxis should not be compulsory, the matter being left to the discretion of the teacher. They also recommend that doctors alone should venture on this subject, and they suggest other restrictions which reflect the hesitation in the minds of the Committee on this point.

The Value of Personal Prophylaxis.

The review by Dr. Marcus of this subject consists largely of abstracts from Neisser's work *Die Geschlechtskrankheiten und ihre Bekämpfung* (Berlin, 1916). He adds some observations recently made in Sweden which, in his opinion, afford further proof of the efficacy of personal prophylaxis. For some years this has been obligatory in the Swedish navy, and it has been most strictly enforced when foreign ports have been visited. During the overseas expedition of the *Fylgia* in 1913–14 only two men became infected, and one of them was found not to have carried out prophylactic treatment. In the period 1919–20, of 557 men given prophylactic treatment only 13 developed venereal disease, and in no case was syphilis contracted. Reporting on this matter the chief medical officer of the Swedish navy has declared this result to be excellent, considering that the incidence of venereal disease among prostitutes in the West Indies is said to be about 95 per cent. In 1912 Dr. Müllern-Aspegren calculated that in men the primary syphilitic lesion was situated in structures unprotected by the condom only in 2.4 per cent. of all cases. In the case of gonorrhoea it is, according to Dr. Marcus, still more effective than in syphilis.

Mechanical or Chemical Prophylaxis?

Dr. Marcus notes that most of the statistics hitherto published refer to chemical prophylaxis, but he appears to agree with Professor Blaschko in regarding the condom as the device which confers most complete protection against venereal disease. The contraceptive properties of the condom have biased the opinions of certain authorities in its disfavour, but Dr. Marcus remarks that where prostitution is concerned these properties can hardly be regarded as a disqualification. As for the part played by the condom in wedlock, he considers it secondary to other contraceptive practices. In favour of this appliance it has been argued that sterility induced by gonorrhoea robs Germany alone of 200,000 new citizens every year, and that the annual cost to Prussia alone of venereal disease is 92 million marks. The use of the condom is urged as being justified if it reduces, as Dr. Marcus clearly thinks it does, the number of infections in wedlock, of criminal abortions, of illegitimate children, of women who take to prostitution on account of pregnancy or venereal disease, and of men who remain unmarried because they have contracted venereal disease.

Contraceptives and the Birth Rate.

Dr. Marcus is profoundly sceptical as to the wisdom and effectiveness of legislative measures penalizing contraceptives. He asks, and answers in the negative, the question—Have ten years of anticontraceptive legislation checked the decline in the birth rate? Between 1911 and 1919 there has been a uniform decline in the birth rate in Sweden, the figures for 1911 being 23.99 per 1,000, while for 1919 they were 19.64. On the other hand, the incidence of venereal disease has increased greatly in this period; in 1913 there were 14,036 new cases of venereal disease, in 1918 this number had risen to 24,088, and in 1919 to 30,429. In these last two years the importation of contraceptives was greatly restricted by the commercial blockade. Dr. Marcus concludes from these figures that the condom plays a part of secondary importance as a contraceptive in wedlock, other measures such as coitus interruptus and criminal abortions playing a far more important part. He quotes Professor Forssner as stating in 1920 that in Stockholm the birth rate had fallen between 1900 and 1919 from 26 to 13 per 1,000. Within the same period the number of abortions has increased enormously, 21 per cent. of all pregnancies being now terminated by abortion, the criminal induction of which has become a most serious factor in the birth rate.

Dr. Marcus traces the evolution of the education and opinions of the medical profession in Sweden on this point. He shows that as recently as ten years ago there were practically no statistics illustrating the value of personal prophylaxis, and declares that the attitude of the doctors in Stockholm towards this matter was nebulous and prejudiced. In 1911 and 1912 a series of hot debates were held in the Swedish Medical Society, and Dr. Müllern-Aspegren's advocacy of personal prophylaxis was supported only by 12 out of 64 votes. When, in 1916, Strandberg addressed the same Medical Society on the value of personal prophylaxis as demonstrated by the war, no opposition was raised.

The Committee calculate that their scheme of popular education will involve an annual expenditure of kr. 31,200,

in addition to an initial outlay of kr. 2,000 on drafting standard pamphlets and other literature. The chief item in this budget is the sum of kr. 14,500 for lectures. Other items are: kr. 5,000 for lecturers' travelling and kr. 5,000 for printing and other expenses.

The Future.

There are indications in this Report that ultimately the present difficulties with regard to personal prophylaxis may be more or less automatically solved in Sweden. For there is every prospect of coming generations acquiring knowledge as they grow up, which will shift the responsibility for contracting venereal disease directly on to the persons most concerned. Practically every adolescent will know the rudiments of venereal disease, the means whereby the risk of infection can be somewhat reduced, and how to obtain and use such means. This knowledge will have been gained gradually, systematically, and under the supervision of responsible teachers, who will have taught physiology and pathology with a goodly leaven of ethics. Thus a state of affairs will, it is hoped, exist quite unlike that now obtaining.

THE TEACHING OF MEDICINE AND SURGERY.

NEW PLANS OF THE LEEDS MEDICAL SCHOOL.

(From Our Correspondent.)

IT will be remembered that some weeks ago—on January 7th of this year—an account was given at page 21 of certain arrangements which were being put in operation to improve the teaching of medicine and surgery at Leeds. It was pointed out that the "unit" system was not deemed suitable for Leeds, but that it had been decided to appoint three whole-time men, one on the medical and two on the surgical side, to take a very active part in the teaching of the students, not only of course by didactic instruction, but by assisting them in investigating the cases entrusted to them and by the conducting of tutorial classes and in other ways.

In our previous article an account was given of the plans which had been outlined for the teaching on the medical side of the house, and it is proposed now to give in outline some indication of the arrangements for the teaching of surgery.

The teaching of surgery at the university and at the infirmary has up till now consisted of—

1. Lectures in systematic surgery by the professor of surgery on Tuesdays and Saturdays from 9 to 10 a.m. during the second and third terms. The number of lectures has been approximately fifty.
2. Lectures on practical surgery on Mondays and Thursdays at 12 noon to 1 p.m. during the second and third terms. Approximate number, forty.
3. Classes on operative surgery. No fixed number of lectures was given. Special arrangements were made for each course.
4. Ten lectures by the professor of clinical surgery during the first term.
5. Clinical lectures every fortnight during all the three terms by the full staff and the assistant staff.
6. Ward teaching from 10 a.m. to 12 noon during all terms.
7. Teaching in the out-patient rooms four afternoons a week.
8. Preliminary instruction by the surgical registrar (*a*) to students just entering on hospital practice; (*b*) to in-patient dressers.

The most radical change is the abolition of the course of systematic surgery, and the reduction of the course of lectures on practical surgery to five or ten demonstrations of operations upon the cadaver.

The instruction in future will therefore consist of the following:

1. An inaugural lecture to all students by the professor of surgery.
2. Preliminary instruction and recapitulation classes by the new officers, who will be termed surgical clinical assistants.
3. Instruction by the assistant staff—namely, (*a*) practical demonstrations in conjunction with the staff of the medical department of the university and the radiographer, and (*b*) clinical demonstrations on Saturday mornings on cases in the casualty and isolation departments.
4. Instruction by the full staff surgeons—namely, (*a*) ward teaching, (*b*) clinical lectures, single or in series, and (*c*) lecture demonstrations as detailed later on.

As regards the second of these methods of instruction it is intended that all students who, having passed the second M.B. or corresponding examination, enter upon their period of clinical work shall receive instruction from the clinical assistants.

The syllabus will be on the following lines:

A. *Sepsis, Asepsis, Antisepsis.*
   1. General principles.
   2. Bacteriology of wound infections (by the professor of pathology or his representative).
   3. Technique of aseptic and antiseptic methods: (*a*) Results of good technique; mode of healing; mortality and morbidity of operations. (*b*) Results of bad technique; suppuration, etc., secondary haemorrhage, phlebitis, etc.
   4. The general conduct of operations: (*a*) Preparation of patient, preliminary and immediate; narcosis. (*b*) Details of operation, "team" principles, haemostasis, drainage, etc. (*c*) Post operation treatment.
   5. The technique of dressings, catheterization, hypodermic injection, etc.

B. *Surgical Anatomy* (in conjunction with the professor of anatomy), including surface markings, landmarks, etc.

C. *Examination of Patient:*
   1. Recording clinical history.
   2. Method of examination—physical signs, condition of chest, urine, etc., from standpoint of surgeon.
   3. Method of diagnosis—general, special, rectal, catheters, specula, etc.

D. *Method of Treatment:*
   1. General principles—temperature charts, splints.
   2. Special appliances (with representatives of other departments if necessary), instruments, infusion and transfusion, vaccine therapy.

All this teaching will be, as far as possible, practical, and carried out in conjunction with the departments of anatomy, physiology, and pathology. The out-patient and in-patient material of the hospital should be at the disposal of the teacher, not for discussing the details of individual cases, but for a general comparison of the physical signs in a series of similar cases—for example, tumours of the breast, thyroid, abdomen, and so forth.

The instruction by the assistant staff will take the place of that formerly covered by the course of lectures in systematic surgery. It should be mentioned that that part of the old syllabus which concerns bacteriology, inflammation, gangrene, parasitic and infectious diseases, including syphilis and gonorrhoea, growths, the constitutional effect of injuries and other matters, have been cut out on the ground that they are dealt with by others. Thus the constitutional effects of injuries will be dealt with by the full staff; gangrenes, etc., by the assistant surgeon in charge of the isolation department.

A detailed and comprehensive syllabus is framed for four assistant surgeons over a period of two years—ten lectures in each of the two terms (January to March and April to June). All lectures and demonstrations in the syllabus will be illustrated by cases, specimens, diagrams, radiograms, etc., whenever possible. The co-operation of the scientific departments of the university will be requested as often as is needed for the full and adequate teaching of the several subjects. The following note appended to the syllabus indicates the spirit in which the courses have been designed:

"At these demonstrations the general method of teaching shall be as follows: General introduction of the subject; demonstrations in the anatomy or pathology, or physiology, of the part, with exhibition of specimens or dissections (in conjunction with the staff of the departments concerned); demonstrations of cases with such clinical discussion as may be necessary, methods of examination, diagnosis and treatment, with demonstrations of any special appliances, trusses, splints, etc. When necessary a series of cases of the condition under consideration shall be collected, and a day arranged for operation upon them, before the class. All material of the hospital shall, as far as practicable, and by arrangement with other members of the staff, be at the disposal of the assistant surgeon for teaching purposes. The assistant surgeon will probably arrange to give special attention to the subject on which he is demonstrating when he is seeing his out-patients in the ordinary way at the infirmary. The out-patient teaching shall be continued on the same general conditions as at present. It is hoped that arrangements can be made by the infirmary authorities for each assistant surgeon to see out-patients. It was decided that the fourth assistant surgeon should supervise the theatre technique, sterilizing, etc., and furnish a report to the committee from time to time. On Saturday mornings clinical demonstrations on cases in the casualty and isolation departments shall be given by the assistant surgeons. The detailed arrangements for this course will be published from time to time."

In regard to instruction by the full staff, it is proposed that the in-patient teaching shall be arranged as follows: (*a*) Mondays, Tuesdays, Wednesdays, and Thursdays, 10 to 12, to be allotted, one day each, to the four surgeons for

ward teaching; (*b*) Fridays, 10 to 12, to be allotted in October, January, and May (the first months of each term) to the professor of surgery; and (*c*) that the remaining two months in each term should be given to the three other surgeons in rotation (for example, November and December to Surgeon A, February and March to Surgeon B, June and July to Surgeon C). On Fridays it is suggested that the teaching should be decided by the surgeon himself; ward teaching, lectures, or clinical lectures, singly or in series, or lecture demonstrations, being given as the surgeon wishes to arrange. To these proposals the following note is added:

"Lecture demonstrations shall be given in conjunction with the professors of anatomy, physiology, and pathology, one of the physicians or assistant physicians, and the radiographer, upon a subject selected beforehand and arranged in consultation with the other surgeons, which shall be fully described and discussed and demonstrated upon patients collected from in-patient and out-patient departments as may be necessary. Material for the occasion shall be offered to the surgeon by all his surgical colleagues as generously as possible. The selection of members of the university or infirmary staff invited by the surgeon to take part in the lecture demonstrations will depend upon the subject chosen. On these occasions cases should be collected for a few weeks beforehand by clinical assistants, etc., and shown at the lecture demonstrations in various stages before and after operation; and a day in the following week could be set aside for operating before the class upon any of the cases examined at the demonstration. The preparation of material for these lectures will require special assistance. It will be impracticable for the Surgeon himself to collect clinical records, specimens, drawings, etc., for the lecture. He will need a clinical assistant."

In order that these alterations and improvements may be carried out under conditions conducive to their full success it must again be mentioned how very desirable is the provision of an instructional block. Accommodation can happily be secured at the infirmary which would fulfil the purpose admirably, but a considerable outlay will be necessary for structural alterations and for equipment. It is earnestly hoped that this may come to fruition in the near future, and if so some account may be given here of what will constitute a great improvement to the infirmary and to the school.

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

(*Continued from page 806.*)

II.

STATE AND MUNICIPAL CONTROL OF DISEASE.

THE Jubilee volume of the American Public Health Association contains a number of articles dealing with the control of disease by States and municipalities. The article by Dr. Charles V. Chapin, lecturer in the School of Public Health, Harvard, to which reference has already been made, serves as a sort of general introduction to the subject. We gather that in the majority of small towns and rural districts there is no board of health, nor any health officer, or that if a board exists it is very inefficient. In a few instances the State has taken over local health work, but the practice of the States varies very much and probably also their legal powers.

Against small-pox, notification, isolation, disinfection, and immunization were employed from early times; so long ago as 1701 Massachusetts required places for the isolation of the disease to be provided. Little importance, it is stated, is now attached in America to terminal disinfection in the management of infectious diseases, continuous disinfection throughout sickness being deemed of more value.

Notification of venereal disease has been, in theory, compulsory in California since the beginning of 1911, and by 1915 a dozen States had followed its example. Little, however, seems to have been done to enforce the law. The chief additional features of the campaign against venereal disease are "the establishment of clinics, the education of the public, and the enforcement of all police regulations which tend to make prostitution less easy." Nothing is said on the questions so much agitated in this country as to "packets" and the rival policies of preventive and curative treatment.

The antituberculosis movement is on the same lines as in this country. The first State sanatorium was built by Massachusetts in 1898, and ten years later there were 250 sanatoriums and special hospitals throughout the United States. The tuberculosis dispensary is, however, looked on as the most important feature of the campaign; prevention of human infection and the raising of bodily resistance are always kept in mind. Much work is done as to preventoriums, open-air schools, better housing, milk and food control, and the like.

Dr. Chapin thinks rather exaggerated importance has been attached to milk for reduction of infant mortality; he says milk stations are still chiefly maintained by private effort, though the municipalities are doing more and more. A change of system, however, is, he says, taking place; the consultation for well babies, at which milk is not sold, has largely taken the place of the milk station as first established. In 1916 there were in 142 cities 95 organizations maintaining such consultations, as compared with 110 maintaining milk stations. Mention is not made here of free supply of milk. In New York City infant mortality fell from 273 per 1,000 births in 1885 to 94 in 1915. Medical inspection of schools began in 1894, and nurses were first employed in 1902.

Serum distribution seems to have been begun by newspaper enterprise in New York, but was taken over by the Health Department in 1894. State health departments are now engaged in the work. It is held that "the experience of some cities has shown that it is not enough to distribute these serums freely, but that many more lives can be saved if the Health Department stands ready to administer them."

On the relation of curative to preventive medicine Dr. Chapin says:

"For a long time it was believed by everybody that preventive medicine should keep its hands off curative medicine, and many health officers, most of the general public, and nearly every practising physician, still think so. On the other hand, there are many experienced and sagacious health officials and publicists who believe cure and prevention ought to be combined to a considerable extent in the same administrative unit."

It appears that many clinics have in fact been established by health officers.

Investigation and advice were the first conception of the health work States could do, and the valuable inquiries by Massachusetts into purification of water and sewage are specially mentioned. Health education of the public has been developed by means of lectures, automobile clinics, health trains, and other such means, but Dr. Chapin remarks that health propagandism too easily falls from the ways of the scientific teacher into those of the commercial advertiser. In the Southern States the safe disposal of human excretion has been the subject of a revolutionary campaign, especially as regards hookworm disease, and splendid aid has been given by the Rockefeller Sanitary Commission. Dr. Chapin expresses the opinion that every city of 50,000 inhabitants should have its own diagnostic laboratory, and that smaller places should be provided for by the State. Vital statistics are still defective, though now death registration exists for more than three-quarters of the population of the United States, and the area for birth registration is rapidly increasing. The New York death rate has fallen from 28 in 1869 to 12.93 in 1910. Within twenty-three years there has been a fall in the death rate of the rapidly expanding registration area equivalent to a saving of 400,000 lives yearly.

It would have been interesting had the article set forth in some detail the organization of a health department, and stated whether there is for properly qualified officers reasonable security of tenure in State appointments, or whether the spoils still go to the victors. But the article otherwise is a mine of condensed information for all interested in the subject, and the above brief notes are only samples of its contents.

A CENTURY'S MORTALITY.

Complete vital statistics for the United States as a whole do not exist, but Dr. Frederick L. Hoffman, LL.D., of the American Prudential Insurance Company, has written an article founded on material which he has collected relative to certain populations, especially New York, Philadelphia, Boston, and New Orleans, for which there exist data concerning the century 1815–1914. Taking the figures for the four cities jointly, it is shown that the death rate, which was 28.1 in the first twenty-five years and 30.2 in the second, fell to 25.7 in the third and to 18.9 in the fourth. In the five years 1916–20 the rates were 15.4, 15.6, 19.8, 14.0, and 13.7. Dr. Hoffman gives an interesting sketch of the history of mortality table construction, and submits observations on the value of such tables. On that point he writes:

"It must be readily granted that all life tables for the general population suffer from the inherent uncertainty as regards the exposed to risk. It is of necessity assumed that the age, sex, and

race distribution of the population remains the same, or is modified according to known principles during the period intervening between two census enumerations. It is further assumed that the enumeration as to age, race, and sex composition of the population has the same intrinsic accuracy as the mortality records derived from registration sources. But both of these assumptions may lead seriously astray. There is the further inherent uncertainty due to a mathematical compromise to give to life-table calculations an appearance of smoothness which may not represent the true facts in the case."

Dr. Hoffman also refers to the question of the real mortality rate in late adolescence, which, he says, is possibly lower than in early adolescence, the mortality between 18 and 21 being perhaps higher than, say, between 21 and 25. He urges that for public health purposes precise death rates by single years of life are absolutely essential, and that the application of mathematical graduation processes may give wrong impressions. In a brief history of the subject he refers to Price's Northampton life tables of 1771 and 1783, to the Carlisle table of 1815, and to the first American life table, by Edward Wigglesworth, D.D., in 1789, which he deals with in some detail, because the original is practically inaccessible. Even where the population is unknown Dr. Hoffman holds that mortality records, "when utilized with extreme care," are "of the greatest value in arriving at definite conclusions regarding the effect of the environment on the death rate." In support of this view he submits for the island of Nantucket a table and chart which indicate a material increase in the average age at death, as an approximately trustworthy indication of sanitary progress.

CHILD WELFARE.

The article on child welfare by Professor Van Ingen, of Columbia University, New York, affords evidence that a great deal is being done, but, as elsewhere in the volume, the value of the conclusions to be drawn is diminished by the fact that the vital statistics available are both recent and incomplete. Statistics for the quinquennium 1900–1904 revealed an appalling loss of life during infancy and childhood and led to the establishment in 1915 of a birth registration area and the issue of birth statistics which then for the first time, it is rather surprising to learn, "were made available for a considerable area and were compiled in a uniform manner." After dealing with such matters as child labour, the medical inspection of school children, and the efforts to secure infant and child welfare made by the Federal (National) Government, States and municipalities, and by private enterprise, Professor Van Ingen specifies four principles which he considers to be of primary importance: (1) Personal—that is, individual—contact; (2) education in simple and attractive form; (3) concentration on the mother and future mother; and (4) the availability and success of non-medical persons in carrying out plans founded on a sound medical basis.

The Child Health Organization, begun in 1918, plays a great part in America. It has interested the children themselves in many ingenious ways and has instituted Health Crusaders, Camp Fire girls, and Little Mothers' Leagues. Infant welfare work has greatly developed in respect of medical attendance for the poor, but as regards the provision of pasteurized milk and other such measures it was found that artificial feeding was thereby stimulated, and "with experience the tendency increases everywhere to place more emphasis on trained supervision and educational work."

Pre-natal work is receiving attention, but is somewhat limited "owing to an effort to make the work as nearly self-supporting as possible." The first school in America for the training of midwives was established at Bellevue Hospital in the face of considerable opposition, the nature of which is not explained. Many States now require registration of midwives, but few supervise them, and until recently hardly any provided for their education. Yet it is said that comparison of results as between midwives and doctors has not always been to the advantage of the latter, and "Ballantyne's remark in 1902 that ante-natal pathology is an almost untilled field is unfortunately almost as true to-day." As regards infant welfare work generally, it is said that such mortality statistics as are available show for the age between 1 month and 1 year a pretty steady diminution from 80.1 in 1910 to 46.7 in 1919.

The Federal Government established a children's Bureau of Investigation in 1912. Its purposes have been widened so that in 1916 it organized a national baby week campaign, and in 1918 a children's year, the aims of the "drive" being public protection of maternity and infancy, mother's care for older children, enforcement of child labour laws and free schooling for all children of school age, and recreation for children and youth, "abundant, decent, and protected from any form of exploitation." The bureau appears to be a great success.

The United States Public Health Service is also a Federal institution, and has extended its work in recent years. Its traditional practice is to try "to fill gaps"; an example of what this means is found in its action "when the Missouri Legislature created a division or department of child hygiene and failed to appropriate any money to carry it on, or even organize it," a situation which seems to be brought about not very infrequently in the United States. The Public Health Service came to the aid of the State Department of Health with both staff and plans. Various voluntary associations were brought in, all except the largest cities were surveyed as to their child welfare work, including school medical inspection and treatment, nutrition clinics, and the like, so that "to-day practically 100,000 school children are under health supervision in the State of Missouri."

Want of funds, however, does not in some cases appear to be a bar to official action. The Louisiana Legislature refused a request of its Board of Health in 1911 to form a division of child hygiene. In the following year the Board itself took action, and though it had no funds for the purpose it "at once proceeded to publish bulletins of instruction on the hygiene of children and the care of infants," and "in 1913 a health train was utilized for spreading broadcast information and advice regarding the health of the school child." The essential fact is that the work goes on, though it is reluctantly admitted that "of course" activities are greatly hampered by insufficiency or complete lack of funds. Private organizations for child welfare have largely developed, and no fewer than sixty national bodies claim to do such work. The National Tuberculosis Association has also turned its attention to children, and co-operation between the various agencies is being fostered.

Nutrition work for underfed children was begun in New York in 1908, but there and elsewhere has now been extended to the improperly fed. In New York City, where hot school lunches are provided for 3,000 children daily, receipts, it is stated, cover the actual cost of the food; administration and equipment cost 49,000 dollars in addition. In Milwaukee schools milk and crackers are given, and in Seattle any child may receive a bottle of milk a day, but it is not stated whether any charge is made where parents are above the poverty line. In San Francisco certified milk was provided for foundlings to foster mothers and the cost in excess over ordinary milk was defrayed by a local association.

To English sociologists a consecutive exposition of the position in America would be valuable. How far is the system maintained by Federal or State subvention, by local assessment, by voluntary contributions, and by direct payment on behalf of the beneficiaries by their parents or guardians? Details must vary according to circumstances, but a general statement of the lines followed would be very well worth having. Presumably school education and training are freely available for every child, in whatever way the cost is met. But where nutrition is concerned—where there is expenditure on school meals—are parents required to meet the cost in whole or part where they can afford it? Whatever the provision made does it apply only to school attendance days, or also to week-ends and holidays? If a labour strike is declared, do the strikers call on the education authority, as representing the public, to take over the feeding of school children? Generally is it thought in America that parental responsibility is in any degree sapped or undermined by too easy bestowal of material benefits, or is the system so administered that any such danger is avoided or minimized? No doubt such questions have been discussed and each country might be the better of knowing the facts and the opinions in the other. The children must not suffer—that is axiomatic: but how are the burden and responsibility distributed?

(To be continued.)

THE *Journal of the American Medical Association* for April 22nd contains a special supplement devoted to the amenities of the city of St. Louis, where the annual meeting of the American Medical Association is being held this week, from May 22nd to 26th, and to the preliminary programme of the scientific assembly of the meeting. There are fifteen sections dealing with different branches of medical science, and one section on miscellaneous topics. Each of the sections (with the exception of the last) apparently meets on three days, and each day has a very full programme of papers, discussions, and demonstrations, numbering about a score in each section.

British Medical Journal.

SATURDAY, MAY 27TH, 1922.

PREPARATION OF VACCINE LYMPH.

IN the April number of the *Journal of Pathology* Dr. Myer Coplans adds yet one more to the continually swelling number of methods suggested for the purification of vaccine lymph by the aid of various chemicals. His choice is certain triphenycarbinol dyes and their leuco-compounds; in other words, malachite green or brilliant green as such, or deoxidized and thus rendered colourless. It is well known that the specific virus of vaccine is more resistant to the action of disinfectants than the concomitant organisms usually associated with it, but experience shows that those chemicals are very few which, while effecting the elimination desired, can with certainty be relied upon not to impair the specific activity.

Coal-tar derivatives have naturally furnished many reagents which from time to time have been suggested for this selective purpose, and it will be recalled that the disinfectant and selective properties of malachite green and brilliant green, as embodied in Loeffler's and Conradi's media, had considerable vogue in the isolation and differentiation of *B. coli*. In this connexion it is interesting to note that the proportion of dye employed by Dr. Coplans—1 in 10,000—for the elimination of all the concomitant organisms is, if we remember rightly, slightly less than the proportion advocated by Loeffler in his medium for the express purpose of enabling *B. coli* to live and flourish.

But Dr. Coplans has other shots in his gun. He brings to his aid glycerin and 0.5 per cent. phenol, and from a table which he gives it would appear that the brunt of the offensive in eliminating the extraneous organisms is borne largely by phenol in conjunction with glycerin. His method is to emulsify lymph pulp with 50 per cent. glycerin in salt solution with the addition of 0.5 per cent. phenol. To this mixture is added malachite green or brilliant green 1 in 10,000. The mixture acquires a high colour, presumably green or blue-green, and, the author states, is rendered bacteria-free in fourteen days, or longer, according to circumstances. But no evidence is given of this. We should have liked to see tables of the bacterial content before, during, and after treatment, indicating the fall of the organisms from time to time; and in passing we may remark that the bacteriological methods employed by the author to ascertain the bacterial condition of the mixture appear inadequate for either quantitative or qualitative estimation.

At this stage a reducing agent in the form of sodium hydrosulphite is added to the mixture. This has the effect of decolorizing the dye-stuff by converting it into its leuco-compound, which the author states has a greatly diminished bactericidal and vaccinicidal action compared with the dye itself. But we note that this decomposition gives rise to products which, according to the author, may in certain conditions act as powerful vaccinicides, "so destroying the potency of the virus."

The condition determining this, he suggests, is excess of sodium hydrosulphite. This state of affairs would seem not unlikely to occur at various points in the emulsion, since the requisite quantity of the reducing agent is added as a powder in one charge directly to the mixture, which the author likens in consistence to condensed milk. Obviously, in these circumstances, the even distribution so as to avoid excess at any point may be attended with considerable difficulty, and if this is so we must assume that material harm may be done to the potency of the lymph.

After this treatment the compound is stored at a temperature of 45° F. to 55° F., which is generally the range of an ordinary ice-chest. The author cites three lymphs treated and stored in this way, and states that they were found to have retained full activity for fifteen months. But, unfortunately again, he gives no evidence of this. We confess that we feel the need of further and definite details—such as, for instance, the number of cases for which the lymphs in question were used, and the results showing personal and insertion success; especially we should wish to see comparative results of lymphs treated by Dr. Coplans's special method and of those (such as issued by the Government) in general use. Very full information is required before exchanging old lamps for new. He states that he has prepared a large quantity of lymph by this method, but he tells us nothing of its use when issued for vaccination purposes, and contents himself with the above meagre statement (confined to three lymphs) of its value. Further, he suggests that his method, owing to its rapidity, will obviate the necessity of storing lymph, and will of itself be sufficient to meet epidemic requirements. We are not clear whether he proposes to do this by a day-to-day output of lymph or by storage of a considerable quantity at the ice-chest temperature he mentions. If the former, it occurs to us that there might be serious difficulty if synchronously with an epidemic there occurred a dearth of animals suitable for vaccination, as happened in the late war, or if the country were swept by foot and mouth disease; if the latter, Dr. Coplans is making a decided regression, and is reverting to the very unsatisfactory conditions of twenty years ago before Blaxall and Fremlin introduced cold storage. In that reversion we do not think he will find lymph experts agree with him. It is well known that it was owing to the system of cold storage that the Government was able to meet the huge and unprecedented demands for lymph made by the rapidly growing armies—their own and others—and these demands were always met promptly and adequately, and, as far as we know, without inconvenience.

We cannot follow Dr. Coplans in his animadversions (and they are not few) on lymph as others make it, but we believe him to be in error if he thinks that storage at suitable temperature involves waste through loss of potency. We understand that no waste whatever is involved and no loss of potency—a marked contrast to former times when lymph was stored, or essayed to be stored, in ice-chests. We gather that Dr. Coplans has had some unpleasant experiences of lymph, for he refers several times to sudden and inexplicable loss of potency in lymphs, and appears to regard this as of common and inevitable occurrence. But we learn that this is not so, that such failures are unknown where lymphs are carefully prepared and stored, and that what seems inexplicable is of simple solution to the lymph expert.

Dr. Coplans invokes State control, and we may recall that the British Medical Association has already made representations to the Minister of Health, pointing out to him that in this country no legal authority exists to enforce the testing of potent and dangerous chemical or biological products. The Minister has appointed a committee to advise him as to the legislative and administrative measures to be taken for the control of the quality and authenticity of such therapeutic substances as cannot be tested adequately by direct chemical means. It might be well to extend the terms of reference of this committee so as specifically to include vaccine lymph, in the hope that eventually some properly defined body may be set up to scrutinize rigorously all curative or prophylactic remedies intended for public use before their introduction to the public, in order to ensure that the claims made on their behalf are just and fully substantiated.

THE PROFESSION AND APPROVED SOCIETIES.

THE Conference of Representatives of Local Medical and Panel Committees, a full report of which appears in the SUPPLEMENT this week, was called specially to deal with a few matters of immediate urgency; one of them is of great importance. The character of the work done by the Conference on May 18th differed from that of most of its predecessors inasmuch as the representatives were concerned, not with changes which they wished to bring about in the arrangements for medical service under the National Insurance Acts, but with an endeavour to maintain those arrangements broadly as they are at present. This would seem to show that the prolonged efforts of the Insurance Acts Committee of the British Medical Association to improve the conditions of medical service under these Acts have achieved a notable measure of success. There are, of course, important points still to be settled, some of which are now in course of adjustment; but there are indications that the stage has been reached when it may be more urgent to resist attack upon the position gained than to seek for an alteration of that position in any fundamental particular.

The main subject of discussion at the Conference deserves the consideration of every member of the medical profession, for it raises matters of far-reaching consequence which may affect both the general question of professional status and the actual conditions under which practice of many types, not merely insurance practice as now conducted, may have to be carried on in the not distant future.

There were grave reasons, based both on experience and on principle, why, in 1911, the profession insisted that "medical benefit" and other benefits of a like nature established under the insurance scheme should be administered not by the approved societies but by Insurance Committees under the direction of a Government department. This point was won; and, unsatisfactory as the composition and position of those committees are in several respects, the committees are at least bodies of a representative character amenable to public opinion and containing, as of right, some medical members. The State has determined that it is part of its business to see that certain classes of workers shall have full opportunity to receive, apart from the Poor Law, such medical advice and treatment as can properly be given by a general practitioner, and has arranged for this by an insurance system which happily at present preserves many of the features of private practice. The Council of the Association and the Conference of Panel Committees have both declared that the measure of success which has attended this system has been sufficient to justify the profession in uniting to secure its continuance and improvement. The terms, financial and other, on which practitioners consent to provide the necessary advice and treatment are settled by negotiation between the Ministry of Health and recognized representatives of the profession, or, in some minor matters, between the local Insurance Committee and the local Panel Committee. The approved societies are now claiming a voice in the negotiations as to the conditions of insurance practice after 1923, and appear to base their claim, curiously enough, on contributions from certain contingency funds towards the cost of medical benefit from April, 1922, to December, 1923—contributions which, after that date, they do not guarantee to continue. These funds do not appear to have been accumulated by any exertions on the part of the societies nor to be their uncontrolled property; nor can the officials of the societies be considered as representing their members on such matters as relate to medical treatment. Even were the reasons for these claims less weak than they actually are, it would be imperative for the medical profession to maintain the position that the conditions under which it provides treatment for insured persons shall be free from the control of approved societies, and not subject to any negotiations with them.

The exact connotation of the phrase "a voice in the negotiations" is not certain, nor does it seem clear to what extent the Government has conceded any claim; but it is well for the profession to make it evident, as the Conference has done, that though it may be prepared to provide medical services under a State system the general nature of which it approves, and under conditions agreed with the Government as representing the whole community, it will not willingly consent to provide them under arrangements with any unrepresentative or sectional organizations, or under arrangements in which such organizations have any official part. It is to be hoped that it will not be asked to do this.

The essential freedom from even the suspicion of approved society control which was won by the profession on the initiation of the insurance scheme must be maintained in its integrity, not merely for the satisfactory working of the scheme as it stands, but because there is real danger of any extensions of the medical treatment provided (either by legislation enlarging the scope of medical benefit or by the development of "additional benefits" already sanctioned) passing directly or indirectly under the control of approved society officials. This is important to consultants as well as to general practitioners, and in this connexion the constitution and working of the National Insurance Beneficent Association, which certain approved societies have joined to establish, deserves careful attention both by the profession and by the Ministry of Health.

The complications of the National Insurance machinery are known only to those intimately engaged in its working. They are far too great with regard to contributions, benefits, and administration alike. All those who are anxious to reduce those complications, to decrease the waste of energy and money involved in many of them, to help insured persons to obtain easily the full advantages to which they are entitled, and to make the whole social organization work more smoothly, may well hold periodic conferences. We believe that the profession will, like the Conference of Local Medical and Panel Committees, welcome such mutual consultation with a view to these ends. But any development of the present situation going beyond this must give rise to grave misgivings and necessitate united professional action.

SEVENTH CENTENARY OF THE UNIVERSITY OF PADUA.

THE seventh centenary of the University of Padua was celebrated on May 14th to 17th in fortunate circumstances. The weather was fine, but not too hot, and over two hundred foreign delegates attended, about fifty coming from the United States of America, about thirty from Great Britain, Ireland, and the Dominions, and a large number from the universities of Italy. On Sunday, May 14th, the delegates met in the grand hall of the University at 2 p.m., under the presidency of the Rettore Magnifico, Professor Luigi Lucatello; this preliminary ceremony was followed by a discussion on "Scientific synthesis and speculative science, the methods and aims of these researches, and their relation to philosophy." During the day the students organized a picturesque carnival and paraded the streets, as they did on the following Tuesday; in the evening there was a reception at the Casino Pedrocchi. Monday, May 15th, was the chief day of the centenary, as the King of Italy arrived and presided at the solemn ceremony in the Sala Ragione, where, before an audience of five thousand people, addresses were delivered by the Rettore Magnifico, the Sindaco, and Professor Nino Tamassia, and the students sang verses by Giovanni

Bektacchi, set to music by Riccardo Zandonai. The foreign delegates and those from other universities and bodies in Italy handed in their congratulatory addresses, and short speeches were delivered by one representative of each of the nations. The British representative was Sir Archibald Garrod, an appropriate choice, for not only is he Regius Professor of Medicine in Oxford—the oldest British university—but in that capacity a prominent figure in the subject matter of one of the chief faculties of the University of Padua, with which the honoured names of Linacre, Caius, and Harvey are so closely connected. In the evening there was a gala performance of Arrigo Boito's *Mefistofele*, which was attended by the King of Italy. On Tuesday morning Professor Augusto Bonome delivered an oration on Morgagni, and a large number of honorary degrees were conferred on the representatives of foreign universities, including those of this country, who were well represented in the list and most cordially received. This was followed by a visit to the Collegio Sacra, where more addresses were delivered; the company then made a special train journey to an open-air lunch in the beautiful grounds of the Istituto Idrotechnico (Villa Reale); in the evening a banquet was given to the delegates by the municipality of Padua. Wednesday, May 17th, the last day of the celebration, was occupied by an excursion to Venice. The town of Padua was *en fête* and provided much of interest for the visitors, who were able to study the stemma of William Harvey in the court of the University.

LEPROSY RESEARCH IN BENGAL.

WE have from time to time recorded the progress of the researches on the treatment of leprosy by injections of soluble products of chaulmoogra and other oils, introduced by Sir Leonard Rogers, and carried on since his retirement from the Indian Medical Service by Dr. E. Muir in the laboratory of the Calcutta School of Tropical Medicine. It has been decided that the balance of the King Edward Memorial Fund remaining after the cost of the erection of a statue has been defrayed shall be earmarked for medical research, and we are glad to learn that a grant of one and a half lakhs (£10,000) has now been made for research into the treatment of leprosy. This will render possible the erection, on a site opposite the school, of a separate leprosy research laboratory and dispensary where the work may be conducted more conveniently and on a larger scale than hitherto. Dr. Muir is making steady progress with the investigation, and it is already abundantly clear that a number of different oils furnish products which are active in destroying the bacillus of leprosy in the tissues; this opens up the field for research on similar lines on the closely allied bacillus of tubercle. Another very satisfactory piece of news is that the gift of half a lakh of rupees by an Indian gentleman has made it possible to acquire two hundred and forty acres of ground for a leper colony for Bengal in a healthy country area; the Bengal Legislative Council have voted a grant of a similar sum—double the amount the Indian Minister recommended in the present financial stringency—to enable the buildings to be commenced; it is hoped in time to accommodate one thousand lepers, with ample land for cultivation, a cottage system for early cases, a hospital in which maimed patients in an advanced stage may reside, and a distinct part for healthy children. The new treatment has now given such satisfactory results, both in India and in Hawaii, that, for the first time in the history of leprosy, patients suffering from the disease in its early stages are coming forward in numbers and asking for the treatment, instead of hiding their affliction as long as possible to avoid life-long imprisonment without any hope of amelioration of their sad condition. Anyone who is acquainted with the literature of the subject, and the frequent failure of segregation methods on account of the impossibility of finding and isolating cases in the early stages, which are infective through discharge of lepra bacilli from the nose, will realize the immense practical importance in the prophylaxis of leprosy of a treatment which will attract such early cases. It places in the hands of medical men and administrators acting under their advice a great opportunity of carrying out practical measures to reduce, and it may perhaps be hoped eventually to stamp out, this loathsome disease, which in its lingering course spares the vital organs. Bengal may be congratulated on the lead it continues to give to the world in research on leprosy.

THE ETIOLOGY OF TYPHUS FEVER.

WE are indebted to the London office of the American Relief Administration for a copy of a report it has received from Dr. Walter G. Davenport, of its medical department in Russia, giving an account of a communication made to the Moscow Medical Society on April 24th, 1922, by Dr. N. Kritch. Since the autumn of 1916 she has been working with Professor Barikan in the laboratory of the Microbiological Institute, Moscow, on the etiology of typhus fever. They have isolated an organism from the brain and spleen of 150 cases of clinical typhus fever one hour after death; they have inoculated 200 guinea-pigs with this organism and have recovered it from every animal. The organism, to which it is proposed to give the name *Microbion typhi exanthematici*, has been found in cultures obtained from over 2,000 infected body lice. It is comparatively scarce in the blood of patients suffering from typhus fever, but exists in great numbers in the internal organs, particularly the brain and spleen, of man and guinea-pig, and in the intestinal epithelium of the infected body louse. It is described as presenting in young cultures the appearance of a disc or biscuit-shaped coccus, varying from 0.4 to 1 micron in length, the breadth being one to two-thirds of the length. It is Gram-negative and is a facultative anaerobe. It does not grow on the usual laboratory culture media, but can be cultivated and kept alive in media composed of a sterilized emulsion of the pancreatized spleen, liver, or intestine of an individual recently dead from typhus; air is excluded by a film of paraffin. Dr. Kritch has also obtained from the brain a luxuriant growth on agar in twenty-four hours; it resembled a culture of the yellow staphylococcus, but died in fourteen to twenty days unless transferred to the spleen medium. Inoculation of guinea-pigs with cultures is followed almost constantly, after a varying incubation period of four to fourteen days, by a rise of temperature lasting six to twelve days. The curve of temperature is said to be characteristic. *Post-mortem* examination of the animals showed passive congestion of liver, spleen, and kidney, and oedema of the brain, with marked proliferation of the lymphoid elements surrounding the small vessels in these organs and some destruction of the intima. The organism was constantly recovered from the brain and spleen of the infected animals. Work on the immunity reactions of this organism has been begun and it is hoped that it may prove possible to prepare a protective vaccine. The American Relief Administration in this country disclaims any responsibility in connexion with the discovery, and we agree that the statements must be received with all reserve. The trend of recent investigations has been to regard a rickettsia (*Rickettsia prowazeki*) as the infective agent.

COCAINE.

NUMEROUS police prosecutions reported recently in this country and in France prove that the illicit trade in cocaine continues on a considerable scale. The chief inducement to resort to the drug seems to be the pleasurable effect immediately produced. The symptoms of mild cocaine poisoning are a feeling of general well-being (euphoria) associated with excitement; the individual feels happy and desires to tell the rest of the world about it, whereas morphine produces a condition of dreamy introspection. The fact that the drug, even in therapeutic doses, may produce sexual excitement has long been known and has been recognized as one of the

disadvantages attending the use of cocaine injections for producing local anaesthesia in dentistry. The effect is not constant, and so far as reported cases go appears to have been observed chiefly in women, from which fact arises the danger for dentists. These two effects—the production of a feeling of well-being, and the occasional aphrodisiac action—may account for the popularity of the drug among the underworld of large towns; by such persons it seems to be taken usually by snuffing into the nose, but self-administration by hypodermic injection is not uncommon. The outstanding features of the cocaine habit are that the majority of the victims are persons under 30 years of age; that a habit is established for cocaine more rapidly than for any other known drug—pronounced tolerance has been produced in eight days; and that cocaine leads to more rapid degeneration, morally, mentally, and physically, than any other drug. The withdrawal of cocaine does not produce any violent physical reaction such as abstention from morphine causes in a morphinomaniac. Some of the charges against seamen heard at various ports suggest that cocaine is smuggled into this country chiefly from Holland, although probably not manufactured in that country. In noticing some months ago a report on the subject to the Académie de Médecine evidence was quoted tending to show that most of the cocaine sold clandestinely in France is smuggled from Germany. In at least one instance it seems to have been proved that the parcel seized was the manufacture of Merck of Darmstadt. The Bombay correspondent of the *Times*, in a recent telegram, after stating that the cocaine traffic was quiescent during the war, when German supplies were not available, says that extensive smuggling is now again rife. The principal source of supply, he adds, is a German factory at Darmstadt and a secondary factory at Grodno, and it is believed that further supplies emanate from other German laboratories. In such facts as these we have additional evidence that police control of the illicit traffic in cocaine, if it is to be effective, must be international.

ANNUAL MEETING, GLASGOW, 1922.

PREPARATIONS for the ninetieth Annual Meeting of the British Medical Association, to be held in Glasgow at the close of July, are now approaching completion, and we hope to publish in next week's SUPPLEMENT the revised programme of the Sections and a general account of the arrangements made for social functions and other entertainments. The medico-political work of the Annual Meeting opens on Friday morning, July 21st, when the Representative Body of the Association begins its session. The statutory Annual General Meeting takes place on Tuesday afternoon, July 25th. In the evening of that day the President, Sir William Macewen, will receive oversea delegates and foreign guests, and will present the gold medal of the Association to Sir Clifford Allbutt and to Major Martin Leake, V.C., and the Stewart Prize to Dr. J. C. McVail. He will then deliver his address. The Annual Dinner has been fixed for Thursday, July 27th, and the Popular Lecture, on "The Physician—Naturalist, Teacher, Benefactor," will be given by Professor Graham Kerr, F.R.S., on the following evening. The scientific Sections meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. The Section of Medico-Sociology has now announced that it will devote the day of its meeting, July 28th, to a comprehensive debate on "Alcohol as a beverage, and its relation to certain social problems." At the morning session discussions on "The action of alcohol on the human economy" will be introduced by Professor Mellanby, and on "Alcohol and mental disorders" by Sir F. W. Mott. In the afternoon Professor Edgar L. Collis will introduce the subject of "Alcohol and industrial economy," and Dr. J. W. Ballantyne that of "Alcohol and infantile mortality." The officers of the Section of Tuberculosis announce that at its meeting on July 27th Professor Rist of Paris will open a discussion on the "Clinical differentiation of pulmonary tuberculosis from other respiratory affections," and Dr. James Taylor one on "Some aspects of surgical tuberculosis." In the afternoon Dr. Rollier of Leysin will give a cinematograph demonstration of heliotherapy. Full details of the programme of these and the other seventeen Sections will be printed next week, when we hope also to publish a descriptive article, with illustrations, on the Medical Institutions of Glasgow.

PHYSIOLOGICAL PROBLEMS IN OBSTETRICS.

THE *Edinburgh Medical Journal* for May, 1922, contains an address by Dr. R. W. Johnstone to the Edinburgh University Physiological Society on "Some unsolved problems in gynaecology and obstetrics." In it he spoke of the dependence of clinicians upon laboratory workers, and indicated some of the many gaps in our knowledge of the physiology of the reproductive organs in women. We were, for example, still in the dark as to the actual cause and precise significance of menstruation, a phenomenon which had attracted much attention from time immemorial. During the last twenty years, however, some real progress had been made; it was founded on the idea that the source of the stimulus which kept the menstrual cycle in motion was the ovary, acting probably along with other endocrine glands. The fundamental fact (demonstrated by, among others, Marshall and Jolly in the Edinburgh Physiological Department) was that the stimulus was blood-borne, not nervous, and the periodicity of menstruation had suggested an analogy with the phenomenon of oestrus or "heat" observed in most mammals. The ovary was even more complicated in the periodicity of its functions than the uterus; the Graafian follicles in its cortex were in various stages of development; each follicle when fully matured ruptured on the surface of the ovary, and the ovum found its way into the Fallopian tube. It seemed not improbable that some internal secretion was formed by the lining cells of the Graafian follicle during the periodic process of maturation and ovulation. An even more curious periodic series of changes followed ovulation; the now empty follicle became a corpus luteum, and much work had been done to test the theory that the corpus luteum was a ductless gland constantly renewed every four weeks. Its retrogression was followed by the rupture of another follicle, which in its turn became a corpus luteum, and so on. There were thus two regular periodic cycles of changes going on in the pelvis of a woman—the first the cycle of ovulation, followed by the development of a corpus luteum in the ovary; the second the cycle of changes in the uterus in association with menstruation. The question arose whether there was a clear parallelism between the menstrual cycle in the uterus and the corpus luteum in the ovary. If there were it would go far to establish the view that an internal secretion from the corpus luteum was directly associated with the cause of menstruation. This, however, was by no means the only interesting problem regarding menstruation which awaited solution. Menstrual blood differed from ordinary blood in certain respects. Blair Bell had shown that it contained a great excess of calcium, and other observers that no fibrin ferment was present. The calcium metabolism in woman was much more unstable than in man; there was evidence that in the female it was governed by the ovary in conjunction with the other ductless glands, and that this control was primarily directed to the needs of reproduction. From the clinical point of view it was of the first importance to get down to the truth in regard to the phenomenon of haemorrhage from the uterus, for menstrual irregularities causing excessive blood loss were amongst the commonest of gynaecological symptoms, and up to the present many of them were treated in a way that was frankly empirical. Another unanswered question was why parturition ensued after a lapse of forty weeks. Experiments had shown that in a uterus severed from all connexion with the central nervous system labour began at the usual time and progressed normally in its motor aspects. The onset of labour must therefore be due to stimulation of the essential ganglia in the uterus by blood-borne substances coming from the ovum itself. There was evidence for the view that the stimulus was either an ovarian hormone or some substance formed

during the altered metabolism of the mother in the later weeks of pregnancy. Remembering the very potent effect which the internal secretion of the posterior lobe of the pituitary had upon the uterus (along with other unstriped muscles), it was impossible to rule that gland out of account. Another promising field for research was the placenta. There were two main views as to the metabolic changes that went on between mother and foetus through the medium of the placenta. So far as the passage of diffusible crystalloid substances like sugar and salts was concerned no great difficulty arose, for this could be explained by a process of osmosis, diffusion, or filtration through the placenta. Much greater difficulty was encountered in connexion with non-diffusible colloidal substances such as fats and proteins; according to one theory the trophoderm had selective powers enabling it to pick out requisite substances from the blood and pass them to the foetus or vice versa. Herein, Dr. Johnstone concluded, was material for research with a very important bearing on the welfare both of the mother and of the child.

"GASSED" PLANTS.

THE toxic action of illuminating gas, even in very small quantities, was illustrated by Professor J. H. Priestley, who occupies the Chair of Botany at Leeds, at a meeting of the Association of Economic Biologists on May 19th. Professor Priestley has experimented on the effect of small quantities of coal gas on the growing parts of plants, such as the hyacinth and onion, the pea and bean, and a number of others. If 1 or 2 c.cm. of coal gas are bubbled into a vessel containing the young plant, marked degenerations occur within forty-eight hours. The root and stem structures become swollen and bent, the young leaves curl over, and the flower petals wither. With ethylene, one of the constituents of illuminating gas, the toxic effect has been obtained at a concentration of one in a million in air. Gas in the soil in so small an amount that its presence could not be detected by the smell has proved toxic for roots. Professor Priestley believes that the poisonous action of these small quantities of gas is due to the unsaturated hydrocarbons, which attack the endodermis of the plant. If the "gassing" is carried too far the plants will not recover, but it is possible, by admitting and withdrawing the admixture of gas in the air during the period of plant growth, to get a knotted structure, marked by alternate sections with a normal and abnormal appearance. The investigation has a certain economic interest, in view of possible gas leakages in greenhouses. One curious point is that the gas affects some varieties of the same plant and not others. A speaker in the discussion following Professor Priestley's demonstration mentioned that he had found one variety of chrysanthemum entirely unaffected by a full fumigation with tetrachlormethane, while another variety was quickly destroyed; the same is true of different varieties of pelargoniums. Evidently botanists are as yet only on the threshold of the study of reaction and immunity in plants.

RICKETS IN THE BRONZE AGE.

A SKULL showing evidence of rickets and believed to be of the bronze age was demonstrated recently to the Cardiff Medical Society by Dr. R. E. Mortimer Wheeler, Keeper of Archaeology in the National Museum of Wales. Only fragments of the skull were recovered, and the evidence of its age is that it was found in a bronze age burial grave some twelve miles north of Cardiff. The date generally accepted for the type of pottery accompanying the skull is between 2000 and 1500 B.C. The remains belonged to a child, probably a boy, about 3 years old, and the cranial measurements were typically brachicephalic. The evidence of rickets seems conclusive. Both Sir Arthur Keith and Professor S. G. Shattock have examined the fragments and have expressed the opinion that the bosses seen on the forehead and on the hinder part of the skull were the result of two attacks of rickets, one occurring when the child was about 6 months of age, and a second about six months later; this was evidenced by the condition seen in the unerupted lateral incisor, which showed two sets of grooves or constrictions corresponding to the periods of the attacks. Dr. Wheeler concluded by stating that the skull afforded the earliest evidence of rickets yet found. In discussing the paper Professor Emrys-Roberts referred to the recent evidence from India pointing to the importance in the etiology of rickets of the deprivation of sunlight and fresh air resulting from the purdah system. In reply Dr. Wheeler gave some account of the mode of life of the bronze age inhabitants of Britain; their huts, he said, were no doubt dark and insanitary, and at the site of the find the climatic conditions had probably been such as to necessitate the inhabitants spending much time under shelter.

KING EDWARD VII SANATORIUM, MIDHURST.

THE fifteenth annual report of the King Edward VII Sanatorium, Midhurst, covering the period from July, 1920, to July, 1921, has just been issued.[1] A postscript printed on the back of the title-page records with deep regret the death of Sir Ernest Cassel, to whose generosity, guided by the wisdom and foresight of King Edward, the institution owes its existence. It was founded in 1903 for educated persons of limited means suffering from pulmonary tuberculosis in an early stage; the buildings were opened in 1906. The council, however, has reason to believe that many patients of this class do not avail themselves of the benefits of the institution, because their medical advisers are unaware of its advantages. It therefore wishes to enlist the co-operation of such practitioners, whose knowledge of their patients will enable them to select persons suitable socially as well as physically for admission. A report of each patient's condition on admission and discharge is sent by the medical superintendent to the practitioner concerned in the case. At present the inclusive charge for maintenance and treatment is 4½ guineas weekly. The buildings stand on high ground on sandy soil at an altitude of 494 feet in one of the most beautiful parts of Sussex; they have a sunny exposure, and are protected from winds. The number of beds is 104, and during the period under review 331 patients were admitted and 269 discharged. Of the 196 patients examined before admission 17.3 per cent. were rejected as unsuitable. The system of treatment adopted is that now common to most modern sanatoriums—namely, an open-air life, regular and ordered routine, a dietary sufficient and nourishing but not excessive, and a system of graduated rest and exercise. In order to secure the intelligent co-operation and confidence of the patients frequent explanatory lectures are given, and, as might be supposed, educated persons make an excellent response. In regard to graduated exercise, a timely note of caution is sounded in the report. Such work when carried out in a sanatorium is not to be looked upon in any sense as a course of education in gardening, poultry-farming, or other open-air work, with a view to employment on discharge. The function of the sanatorium is to treat and arrest the disease, not to teach a profitable employment; to confuse the two objects is to invite disappointment; the proper place for technical training is a farm-colony, to which the individual should go after the disease has been arrested at a sanatorium. The laboratory report states that more than 1,000 examinations of sputum were made. Of the 331 patients admitted, the sputum was found positive in 207, and negative in 79; 45 had no sputum. Apart from routine laboratory work, the chief matter investigated was the complement-fixation test for tuberculosis. The technique corresponded closely to that employed by McIntosh and Fildes for the Wassermann reaction. The aim of the investigation was twofold: (1) to ascertain the practical value of the test in the diagnosis and treatment of pulmonary tuberculosis, and (2) to effect technical improvements in order to increase the delicacy and

[1] Copies may be obtained, price one shilling post free, from the Medical Superintendent, the King Edward VII Sanatorium, Midhurst, Sussex.

specificity of the test. In the result 90 per cent. of all cases having at some time had tubercle bacilli in the sputum showed a positive complement-fixation test for tuberculosis, and the provisional conclusion was reached that, on the whole (with the possible exception of certain cases with a positive Wassermann reaction), the test is probably specific, a positive result indicating tuberculosis. A positive reaction, once developed, seemed to persist for some time, and there was not usually any change in its intensity during the patient's stay in the sanatorium. No evidence was found to indicate that an obsolete and healed lesion would give a positive reaction, but a positive result was often found in arrested cases. No definite conclusion was reached as to the diagnostic significance to be attached to a negative result with this test.[2] The annual report contains also summaries of the work of the *x*-ray and throat departments, together with statistics in tabular form showing the ultimate results of treatment at Midhurst. Much work has been done in the dental department, reflecting the importance attached by the medical staff to the removal of septic teeth and the maintenance of oral hygiene in improving the general condition and resistance of patients with phthisis. Lastly, a brief note states that artificial pneumothorax continues to be employed in a few selected cases with success; the patients come back to the sanatorium to be "refilled," stay the night there, and leave the next day.

"ARCHIVES OF MEDICAL HYDROLOGY."

THE first number of *Archives of Medical Hydrology* gives promise of a successful career. It is the journal of the International Society of Medical Hydrology, which was constituted at a meeting held in London at the house of the Royal Society of Medicine in December, 1921, when it was agreed that it was desirable to gather together the scientific resources of this branch of medicine and make them available to the general medical reader. This first number of the *Archives* has a preface by Sir Clifford Allbutt, in which, after an historical summary of the subject, he points out the need in England for carrying higher and higher the new methods in medical hydrology that have been recreated during the last half-century. Establishments, says Sir Clifford Allbutt, which a few years ago were little more than hotels with hydropathic advertisements, are now growing into laboratories of a much higher craft, and it is for science to extract the living kernel of truth from the perishing fruit of experience. Professor Paul Carnot also contributes a short foreword on the scientific aims of hydrology. The *Archives* begins its career, therefore, with high ideals. It may be hoped that the publication of this journal under the editorial direction of Dr. Fortescue Fox will encourage spa physicians to undertake scientific investigations into the action of the remedies with which they deal. To the first number Professor Leonard Hill contributes an article on the effects of heat and cold on the body; Professor Alois Strasser writes on the scientific foundations of hydrotherapeutics; Dr. Wybauw discusses treatment by natural effervescent baths; Professor Chassevant and Dr. Paul Ferreyrolles, Dr. S. Judd Lewis, and Dr. William Bain contribute articles on the scientific study of mineral waters; Dr. Gustave Monod writes on the spa treatment of diabetes; and the editor contributes notes on three pioneers of hydrology—Winternitz, Garrigou, Baruch—who all lived to be octogenarians. Articles written in English are usually followed by abstracts in French, and those written in French by abstracts in English. The new journal is well printed, and the cover design is decidedly interesting; we cannot, however, pretend to like the free use in one of the articles of clarendon type to emphasize phrases and sentences. The annual subscription for the *Archives* is 10s. 6d., post free, and communications should be addressed to the honorary secretary of the society at 36, Devonshire Place, W.1.

[2] Cf. article by A. L. Punch and A. H. Gosse, BRITISH MEDICAL JOURNAL, April 1st, 1922, p. 509.

SIR ALFRED KEOGH.

WE mentioned briefly last week that Sir Alfred Keogh was retiring, under the age rule, from the office of Rector of the Imperial College of Science and Technology at the end of the summer term, and observed that his work there had been sadly interrupted by his recall to act as Director-General of the Army Medical Service soon after the war began. In spite of the interruption, however, the College has under his direction prospered exceedingly, and his enforced retirement is a source of unqualified regret. In 1910 the College was attended by less than 700 students, and there were only 10 post-graduates; the last sessional report shows 1,300 students and 303 post-graduates. During Sir Alfred Keogh's rectorship the college buildings have been greatly extended, and only to-day a new building for the study of biochemistry is being completed and equipped. The teaching posts have been increased in number to an equivalent degree, and talent of the first order has been secured to occupy them. Yet the increased accommodation and provision of teachers has not sufficed to keep pace with the number of students seeking admission, and every year applicants are sent away, even although they reach the prescribed standard of preliminary scientific and literary education. That a member of our profession, after an unparalleled success in his own service, should have again demonstrated his great powers as an administrator in a different and still wider reaching field of national education must be a legitimate source of pride to us all; and while we can but bow to the inexorable rule of superannuation, yet we must deplore that his great work for the College is being brought prematurely to an end. Sir Alfred Keogh has already had a career of extraordinary distinction, of which we gave details in our issues of January 19th, 1918 (p. 101), and March 2nd, 1918 (p. 265). His services in the office of Director-General of the Army Medical Service for two periods were recognized by the Crown when he was created Grand Cross of the Bath in 1917, a distinction reserved for the greatest servants of the Crown, and one which has very rarely been received by a member of our profession. That profession has taken many opportunities of honouring him, and hopefully anticipates that it will in the future have other occasions of expressing to him its indebtedness, not only for what he has done, but for what he will do. Sir Alfred Keogh is in the full vigour of life and capable of rendering many more services to the profession he loves. Its members will not readily forgo their right to make further calls on a leader inspired by its highest ideals, endowed with indefatigable energy, and possessing well-proved powers of organization.

THE Croonian lectures before the Royal College of Physicians of London will be delivered by Dr. Gordon Holmes, C.M.G., C.B.E., on June 8th, 13th, 15th, and 20th, at 5 p.m., the subject being the symptoms of cerebellar disease and their interpretation.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Insurance Practitioners' Remuneration.

MR. ALFRED T. DAVIES, on May 22nd, asked the Minister of Health whether, seeing that the Government entered into an agreement with doctors serving in connexion with national health insurance in 1921, that their remuneration should be fixed, for a period of two years ending December, 1923, at 9s. per insured person per annum, making the total cost of medical benefits 12s. per insured person per annum, that the Minister undertook then that the difference of 2s. 6d. between the sum provided by approved societies and the total cost of medical benefits would be met as theretofore by Exchequer grant, and that it was now proposed to transfer that liability of the Exchequer to the approved societies, he would state the reasons for taking this course.

Sir A. Mond said the undertaking to which reference was made was that no reduction in the remuneration of insurance practitioners should be made during the period in question. No undertaking was either given or asked for as to the source

from which the additional 2s. 6d. would be provided. The Committee on National Expenditure recommended that the Exchequer should be relieved of any charge on this account beyond the statutory two-ninths, the liability being transferred to national insurance funds. The method of securing this result embodied in the bill before Parliament was suggested by the Ministry of Health Approved Societies Consultative Council.

Health Precautions for Miners.

In the course of his speech, on May 18th, on a vote for the Mines Department, Mr. Bridgeman (Secretary for Mines) made some interesting statements as to what is being done for the safety and health of workers in the mining industry.

He said that various committees had considered a good many questions connected with the health of persons engaged in metalliferous mines, and these were being remitted to a small medical committee which had consented to work on matters affecting health in mines, whether coal mines or metalliferous. Another function being carried out by an independent committee under the chairmanship of Lord Chelmsford was the allocation of the Welfare Fund set up under the Mines Industry Act by a levy of 1d. per ton on coal produce. The sum available was about a million sterling, four-fifths of which had to be spent in the localities in which it was raised. Perhaps the most attractive scheme of all was that of the district committee in Ayrshire, which had recommended the allocation of the money, not only this year, but for the whole period of the grant, for the acquisition of a sanatorium for the mining community. They had a fine mansion and one hundred acres of land, and there would be accommodation for one hundred patients in this convalescent home. In regard to the one-fifth of the fund—to be spent centrally—the committee had decided to use it as far as possible for large national work, such as research work or larger questions of education, which went beyond the limits of any particular district. It was proposed to erect a new station for carrying out experiments in coal dust, as well as in testing miners' lamps and in other work which had hitherto been undertaken at Eskmeals in Cumberland. Coming to the services for health and safety, which had been transferred to the Mines Department from the Home Office, Mr. Bridgeman said it was gratifying to find that there were fewer fatal accidents per thousand miners in this country than in any other country except Belgium, and Belgium being so small did not afford a very fair comparison. Even so, he was not satisfied that the accidents could not be reduced very considerably. He did not think it could be done by piling regulations upon regulations; indeed, he believed that an excess of regulations often had the opposite effect, but he was trying to get statistics more easy of comparison. He was thankful to say the department was able to consult a very able small medical committee, consisting of Sir Walter Fletcher, Professor Haldane, Sir Kenneth Goadby, and Dr. Collis. There was also the Mining Dangers Research Board, which was doing valuable work dealing with such questions as nystagmus, miners' lamps, and spontaneous combustion. Under the Privy Council, and not under the Mines Department, there was also a Medical Research Council with which the department was in close touch. This body had consented to consider two or three very important questions. One was stone-dusting. That was as to what kind of stone should, or should not, be used in stone-dusted mines. An investigation was also going on in regard to beat-hand and beat-knee, and several other cognate matters. They had assistance in these research directions from the universities, and also from the organizations for which the owners paid. Mr. Bridgeman went on to say that he was convinced that an immense number of accidents were due to easily avoidable carelessness, and others were due to not having first aid. If it became a habit always to seek first-aid treatment for any scratch or injury many lives would be saved. He was trying to initiate and push a "safety first campaign."

In the course of the debate Mr. Armitage urged that it would be very desirable that the winding engine men in charge of cages should be medically examined at certain periods, and should also have an age limit. On the question of miner's nystagmus he said that in a pit with which he was concerned there were in 1912 about 2,400 men employed, and the nystagmus cases numbered 11. The oil lamps were taken out after that year, and, while the number of men employed had gone up to 3,000, the nystagmus cases had gone down to 3. They attributed the disease to the introduction of electric lamps.

Mr. R. McLaren said that in Scotland there were few cases of nystagmus. He had examined many men for it, and found only one or two cases there. In their opinion the reason was that they used open lamps. In regard to the electric lamp he thought that Mr. Bridgeman should seek some means whereby the miner might know the condition of the atmosphere in which he worked. There was said to be an invention whereby, through the ringing of a bell in connexion with an instrument, one could tell the amount of fire-damp present. Many years ago he helped to get an instrument which gave the same results, but it was too delicate.

Mr. Casey protested against the suggestion for medical examination and for an age limit for winders. Speaking as a winder of more than twenty years' experience, he said that the best and safest were not the young men, but men of middle age or whom some would say were of advanced age. He challenged evidence of a single case of serious accident resulting from disability on the part of an engine-winder. He made suggestions for the testing of appliances against over-winding.

The vote was given after two divisions.

Milk Supply, Newcastle-on-Tyne.—Mr. Doyle asked, on May 17th, if the medical officer sent by the Ministry of Health to investigate the serious cases of milk pollution in Newcastle had concluded his task. Sir A. Mond replied that he had received the report of his officer, and was satisfied that the results stated by the medical officer of health of Newcastle-on-Tyne were correct. Mr. Doyle inquired whether the representative was a qualified analyst. Sir A. Mond said he was a qualified man. It was not a question of analysis but of bacteriology. He sent down a medical man, who examined into the bacteriological measures taken. The report confirmed the methods adopted by the M.O.H. as having been satisfactory. On further question by Mr. Doyle, the Minister said he was not aware that since the matter was first raised a fortnight ago additional samples had been taken, and that 10 per cent. additional pollution had been found in these samples.

Accidental Poisoning by Strychnine.—Major Barnett asked, on May 23rd, whether the attention of the Home Secretary had been drawn to a case of strychnine poisoning by misadventure, in which one of His Majesty's judges suggested that mistakes of this kind could be obviated if it was enacted that all poisons should be of definite and distinctive colours; and if so whether he would consider the desirability of issuing regulations under the Poisons Act. Mr. Shortt said he was advised that the regulations for the keeping of poisons direct them to be kept in a room or cupboard "set apart" for the purpose, and that the observance of this rule should in ordinary circumstances render such occurrence impossible. Inquiries were being made of the Pharmaceutical Society as to the practicability of employing definite and distinctive colours for poisons, and if a favourable report was received the possibility of making new regulations under the Poisons and Pharmacy Act would be considered.

Small-pox in the British Army.—Lieut.-Colonel Stanley, on May 17th, replying to Mr. Mills, said he was not yet in a position to publish the statistics of small-pox cases and deaths recorded in the British army in various parts of the world during the years of the war. He could not forecast the date of the completion of the statistics.

Disabled Ex-service Men.—The following have been constituted the Select Committee on Government training of disabled ex-service men: Captain Bowyer, Sir Thomas Bramsdon, Major Cohen, Mr. Colin Coote, Sir John Davidson, Lieut. Commander Dean, Major John Edwards, Major Entwistle, Dr. A. C. Farquharson, Captain Gee, Lieut.-Colonel Vivian Henderson, Mr. Lawson, Lieut.-Colonel Watts Morgan, Dr. Nathan Raw, and Mr. Frederick Roberts.

Supply of Calf Lymph.—Dr. McDonald asked, on May 17th, if the Minister of Health would consider the advisability of preventing the sale of calf lymph vaccine by any person unless in possession of a Government licence. Sir A. Mond said that the general question of the control of certain therapeutic substances, including the vaccine referred to, was considered by a departmental committee appointed by his predecessor, but the carrying out of its recommendations would involve additional expenditure which the Department was not prepared to undertake at the present time. Dr. McDonald asked if, in view of the alleged increasing inefficiency of vaccination owing to many medical practitioners certifying one vesicle as successful, the Minister would consider the advisability of supplying general medical practitioners with Government lymph at a reasonable charge on the condition that the area produced conformed to that laid down. Sir A. Mond said the matter had been considered from time to time, but as at present advised he did not think it practicable to take action in the direction indicated.

State Management of Liquor Trade.—Colonel Sir Arthur Holbrook, on May 17th, introduced as a private bill a measure to abolish State management of the liquor trade.

Rabies near Southampton.—Sir A. Boscawen informed Colonel Burn, on May 17th, it had been necessary to reimpose the muzzling order in an area round Southampton. The origin of the case of rabies near Southampton had not been traced. No other dogs had been infected since the muzzling order was imposed. The dog which was the subject of inquiry was probably bitten some time between early January and May by a rabid dog now dead. Inquiries were being made as to any dog lost or destroyed during that period, and whether any had been smuggled into the Southampton area from abroad.

Criminal Law Amendment.—Mr. Chamberlain stated, on May 18th, in answer to Mr. Thomson, that the Government maintained its intention to pass within the present session a bill amending the Criminal Law Acts.

Illicit Drug Traffic.—Mr. Ramsden asked, on May 18th, whether the Advisory Committee on traffic in opium had reported to the Council of the League of Nations that in spite of the activity of the police and the heavy penalties imposed upon us the traffic in drugs to Western Europe was extremely difficult to check, while it had so far proved impossible to discover the means by which the drugs were obtained or to learn by whom the traffic was organized; and whether, in these circumstances, the Home Secretary would consider increasing the penalties of all convicted traffickers and, if necessary, introduce legislation for the purpose of instituting the punishment of flogging for this offence. Mr. Shortt said that, as he had already stated, the question of strengthening the present Act was under consideration. He added that convictions had been obtained in respect of raw opium, prepared opium, morphine, heroin, and cocaine.

Shepherd's Bush Hospital.—In reply to Mr. M. Wilson, on May 22nd, Mr. Macpherson said that the number of officials and clerks employed at the Ministry Surgical Hospital, Shepherd's Bush, were as follows: 10 medical officers, a controller of stores, an accountant, and 14 clerks. There were also 11 part-time medical officers.

Dangerous Drugs; Farmers and Stock Owners.—In reply to Mr. Hinds, on May 22nd, Sir J. Baird said that licences under the Dangerous Drugs Act had not been issued to agriculturists, but under the order of last August farmers and stock owners in certain circumstances could obtain a certificate from the chief officer of police which enabled them to secure tincture of opium for use in the treatment of animals. No fee was chargeable for the certificate.

ANTI-ANAPHYLAXIS.

LECTURE BY PROFESSOR WIDAL.

ANOTHER lecture of the series by distinguished French medical men, arranged by the University of London, was delivered on May 22nd, when Professor Fernand Widal, Grand Officer of the Legion of Honour, and Professor of Clinical Medicine in the Faculty of Medicine, Paris, lectured on the subject of "Anti-anaphylaxis." The hall of the Royal Society of Medicine was well filled. In introducing the lecturer, LORD DAWSON OF PENN said that for his researches his name was well known in the medical communities of all nations. On the subject which he had taken for the lecture Professor Widal and his collaborators had been working assiduously for many years with brilliant success, and many of those present had had the advantage already of reading the results of those researches given in Professor Widal's lucid style.

Professor WIDAL then lectured for ninety minutes in French in the most vivacious and interesting manner, even investing his abstruse subject with occasional humour. He began by referring to the work of Besredka, who, fifteen years ago, first made known the existence of anti-anaphylaxis by demonstrating that to prevent the anaphylactic shock occurring in a sensitized animal it was only necessary, a very short time before injecting the anaphylactic substance, to give the animal a minute quantity or fractional dose of the same substance. This phenomenon proved that the shock was the result of an overthrow of the colloidal equilibrium of the plasma cells—a condition which he called "colloidoclasis"—and did not belong to the intoxications, and was not subject to chemical laws. From an observation of many clinical and experimental results, it appeared that the principle underlying anti-anaphylactic vaccination was not special to the state of anaphylactic shock, but appertained to shock of every kind, whatever its origin; nor need the preventive injection be carried out with a substance similar to the one responsible for the shock—other substances very different chemically would answer the same purpose; and the method of administration might be by the digestive tract as well as by hypodermic injection.

For a long time the clinicians had to deal only with accidents following the injection of serum, but serum anaphylaxis was only an example of artificial anaphylaxis, not the spontaneous anaphylaxis of nature. It was not by anything so unrefined as an hypodermic process that the spontaneous anaphylaxis came about. Through the mucous membrane of the digestive or the respiratory tract infinitesimal doses of innumerable substances were daily introduced into the body, and this action, often repeated, might end, in some cases after years, in sensitization to a particular substance. An instance in point was the alimentary anaphylaxis often brought about in infants towards milk or egg, and, again, anaphylaxis by inhalation, which caused asthma. Just as anti-anaphylactic vaccination could be used to prevent accidents occurring on the injection of therapeutic serum, the method being the previous injection of very small doses of the same serum, so the shock in anaphylaxis due to a particular food or drug could be averted in the same way. An attack of urticaria, for example, might be prevented by giving a minute dose beforehand of the alimentary substance concerned in the production of the condition. In cases of alimentary infections where the specific cause could not be recognized, shock might be prevented by the use of ordinary albuminoid substances such as peptone. Even crystalloid substances could be used, an injection of sodium chloride averting the shock consequent upon the injection of serum, and a similar injection or one of sodium carbonate acting in the same way against the shock following the injection of arsenobenzol in certain subjects.

The lecturer then turned to the question of desensitization. Instead of preventing the anaphylactic shock each time it might appear, all future occurrence of the shock might be prevented in some cases by desensitization. The first experiments along these lines were made in the case of anaphylaxis arising from substances which were digested, and here it was generally easy to discover the responsible antigen. To individuals who had been sensitized by egg, milk, or other such substances, it was easy to give infinitesimal doses of the same substance, increasing the dose progressively each day, and this method had been used in the case of infants. Only in certain cases, however, was specific desensitization capable of bringing about the cure of the anaphylactic condition. Non-specific desensitization also had its part to play; here substances were used quite different from those which brought about the anaphylaxis. In certain cases the ingestion of a very small quantity of peptone an hour before a meal would not only prevent the immediate digestive symptoms of anaphylaxis, but after a certain period would bring about the disappearance of the anaphylactic state of the subject altogether. Desensitization against respiratory anaphylaxis, such as asthma and hay fever, might be obtained by subcutaneous injection of progressive and frequently repeated doses of the specific substance which was the cause of the anaphylaxis. Anaphylactic asthma was often due to proteins derived from food or animal products, and vaccination with the specific protein might make the asthma disappear, at least for a time.

Finally the lecturer touched upon symptomatic treatment of the shock, instancing the results obtained with adrenaline, atropine sulphate, and other substances. He spoke also of disturbances of the endocrine glands from this point of view, mentioning that asthma could be favoured in its development and regulated in its cycle by functional study of the ovary or thyroid, and with the conditions created by endocrine disturbances one could watch the development of anaphylactic hypersensibility to certain imponderable things which brought about the attack of asthma. Altogether the physician had a variety of means of dealing with anaphylactic manifestations. All these on occasion had had remarkable success, but there had been also conspicuous failures, and in the presence of the anaphylactic condition the physician never knew in advance which therapeutic measure would succeed. It was necessary to be very patient and to try successively the different procedures, not forgetting the unexpected success which some of them had given in cases which up till then had defied all treatment.

Sir ALMROTH WRIGHT expressed in French the thanks of the audience to Professor Widal, and went on to say that Professor Widal had confessed that he was *passionné* with this subject. For his own part, whenever he went to Paris and wanted to get "impassioned" with some intellectual interest, he betook himself to Professor Widal's laboratory and always found something new. Professor Widal, although a great clinician, did not content himself with clinical methods. He did not say that what he could see with his eyes and hear with his ears was all that there was to be known. He had introduced into medicine a new physical method of experiment, and if medicine was to advance it must be by the use of such laboratory methods. Although Professor Widal was in the first place a clinician, he was not content to use other laboratories and other men, but worked assiduously in his own laboratory. The adoption of the experimental method did not mean that the experimenter was going to try anything upon anybody; it postulated a scientific training, and one saw that certain things which had been tried in the laboratory might with advantage be carried out in practice. The experiments were not made at random. Professor Widal was also great in his power of generalization; the test of a great man was to make proper classifications of things. For his insistence upon laboratory experiment and for his power of generalization his British colleagues held him in all honour.

Dr. GRAHAM LITTLE rather contested Sir Almroth Wright's inclination to group Professor Widal among the men of the laboratory; to him he was the supreme physician. The University of London had done a very great service in introducing these distinguished French professors to the British medical world. This country had been too long under the influence of the Central European system of medicine, and one result of the war had been to make its medical men better acquainted with the Latin system, to their great advantage.

England and Wales.

A Red Cross Civilian Clinic.

Last year the work of the clinic founded by the Kensington Division of the British Red Cross Society for the treatment of ex-service men began to diminish, and it was recognized that within a short time there would not be enough patients to justify its maintenance. The functions of the clinic included treatment, with massage, electricity, radiant heat, and remedial exercises. After consultation with representative local medical practitioners, including the Mayor of Kensington (Dr. A. J. Rice-Oxley), it was decided to institute a clinic for the general public. This new clinic was opened in Kensington last February, and now between thirty-five and forty patients are attending it weekly. Its object is to put physical treatment within reach of those members of the civilian population whose financial position is such that they cannot afford the ordinary fees charged. A patient is requested to bring a letter of recommendation from his own doctor, and before any treatment is given he is examined by a specialist in physico-therapeutics, who attends the clinic on Mondays and Fridays at 6 o'clock. Medical practitioners are requested not to send patients able to afford higher fees than the maximum charge at the clinic, which is 5s. for each treatment and 5s. for the consultation; an almoner is in attendance on the evenings of Mondays and Fridays, and individual charges are decided by the almoner, and referred to the committee for revision if necessary. The clinic is administered by the Kensington Division of the British Red Cross Society, which bears any financial responsibility and works in conjunction with an advisory committee of medical practitioners. The scope of the work is very varied. It comprises the treatment by physical methods of all forms of injury or disease of the limbs; of sprains, fractures, dislocations, stiff and painful joints, and of cases in which muscle power has been for any reason reduced or lost. Post-operative treatment is also undertaken, as are appropriate cases of neuritis, and patients suffering from postural deformities, deficient chest expansion, and under-nutrition. The re-education is undertaken of patients suffering from various disorders of the central nervous system, from neuralgia to tabes dorsalis; instruction is given also in the use of an artificial leg, and patients are provided at the clinic with the more simple orthopaedic appliances, such as special boots and splints. Patients living in Kensington have a prior claim on the clinic, but should there be vacancies applicants living outside the area are accepted. The Kensington Division of the British Red Cross Society deserves credit for its endeavour to provide, in conjunction with the medical profession, this physical treatment centre. Such clinics are needed, and the lines upon which the centre at Kensington has been established and developed may serve as an example to others.

Tuberculosis Care Committees.

The Ministry of Health has circularized the metropolitan borough councils with regard to the organization of voluntary care committees in connexion with tuberculosis dispensary schemes. Since 1915 this work has been carried out on a provisional basis, but the present time is believed to be opportune for the establishment of permanent committees. The circular offers suggestions for the guidance of borough councils in this respect. As many members of the committee as possible should be experienced in social welfare work, and a representative of the local war pensions committee should be included. A responsible secretary should be appointed whose work should include the preparation of information for the use of the committee. The unit with which the committee should concern itself is the family, not the individual patient, and the economic position of the family is to be considered as an important factor in the problem. It is not the function of the committee directly to provide financial assistance except as a temporary expedient in special cases, but the family should be brought to the notice of the appropriate charitable or public organization. Close co-operation must be preserved between the committee and the staff of the dispensary. The tuberculosis officer should regularly attend the meetings of the committee to advise on the medical needs of cases and to inform himself of the measures taken by the committee in the economic interest of the patients. Other functions of the committee are to undertake the assessment of charges made in respect of residential treatment where the income of the family exceeds a certain amount, and to investigate cases in which the provision of extra nourishment or dental treatment is recommended by the tuberculosis officer on medical grounds. It is urged that the meetings of the committee or of a responsible subcommittee should be held weekly.

Royal Bath Hospital, Harrogate.

The Royal Bath Hospital and Rawson Convalescent Home, Harrogate, was reopened on April 20th, considerable improvements having been carried out in its equipment. The bath-house has been reconstructed and a new cooling room formed, and the interior of the hospital has been reorganized so as to provide additional rooms for the nursing staff. The alterations to the bath-house include a granolithic floor, a new douche room, as well as a room for Berthollet and paraffin wax baths. The white porcelain slipper baths have been screened according to a new scheme and are slightly sunk in the granolithic floor to facilitate cleaning. The douche room is fitted up so that treatment may be given either by the Aix or Vichy method, and in addition to the needle bath a "Scotch douche" has been installed. The bath-house has now three local steam or Berthollet baths, and also paraffin wax baths for the knee, hand, and foot. What remains to be done before the completion of the proposed scheme is to build a small Plombières department, an efficient clinical laboratory, new massage and electrical rooms *en suite* with the bath-house and cooling room, and an *x*-ray operating theatre and examination rooms. These additions are required to make the hospital a complete modern centre for the treatment of the rheumatic and arthritic groups of diseases, and some £7,000 are necessary to carry them out.

Liverpool Ladies' Sanitary Association.

This association, now of some years' standing, continues to do excellent work in promoting infant welfare by affording ladies of leisure the opportunity of undergoing a training enabling them to perform useful work for the public advantage. The Ministry of Health approved of the object and has given financial assistance. Recently a new departure has been made, for it was felt that an observation nursery for delicate children would meet a great need in those cases where the mothers were incapacitated from giving the necessary attention to such children. Further, the children's hostels provided opportunity for training elementary school girls who desired to become competent nursery maids. The medical officer of health, Dr. E. W. Hope—who has been connected with the association from its beginning—has borne testimony to the good work that has been so quietly and so perseveringly performed; the municipal health and education authorities are, he says, fully alive to its efforts for the health of the young life of the city. The financial statement shows a deficiency of £1,100, and the Lord Mayor has made an earnest appeal for subscriptions to an association whose good practical work is apparent to all.

Scotland.

Edinburgh Post-graduate Courses.

Courses for medical graduates will be held this year in connexion with the University and Royal Colleges of Edinburgh from July 31st to September 9th inclusive. They will comprise: (1) A course in diseases of children, from July 31st to August 12th, the fee for which is six guineas, or five guineas for those attending either of the general courses; (2) a general medical course; and (3) a general surgical course. Courses 2 and 3 will each last four weeks, from August 14th to September 9th; the composite fee for each is ten guineas for the four weeks, or six guineas for either the first or the second fortnight. A series of special lectures open to all graduates will be delivered three times a week during the month on subjects of general medical and surgical interest, including recent advances in treatment. A number of special courses have also been arranged for the summer term (May to July) and the autumn term (October to December). Particulars may be had on application to the Honorary Secretary, Post-graduate Courses in Medicine, University New Buildings, Edinburgh.

Medical Societies of Glasgow.

The annual business meeting of the Glasgow Royal Medico-Chirurgical Society was held on May 5th, when office-bearers for session 1922–23 were appointed as follows: President,

Dr. A. Maitland Ramsay; Vice-Presidents, Dr. R. O. Adamson and Dr. G. Morris Crawford; Secretary, Dr. Adam Patrick; Editorial Secretary, Dr. G. Herbert Clark; Treasurer, Dr. James H. Martin. New councillors were appointed in the various sections: Medicine, Dr. John F. Fergus; Surgery, Mr. James Russell; Pathology, Dr. J. Norman Cruickshank; Obstetrics, Dr. Donald McIntyre.—The Glasgow Northern Medical Society has appointed the following office-bearers for the ensuing session: President, Dr. Robert Grieve; Vice-Presidents, Dr. P. McKellar Dewar and Dr. A. M. Crawford; Secretary, Dr. A. Stanley Richmond; Treasurer, Dr. James H. Martin.

Edinburgh Royal Maternity Hospital.

The annual meeting of the Edinburgh Royal Maternity Hospital was held on May 19th; Lord Provost Hutchison presided, and among those present were Dr. T. G. Nasmyth, the newly elected Chairman of the Board of Directors, Emeritus Professor Sir Halliday Croom, Sir Ludovic J. Grant, Bt., and Sir Robert Maule. The report showed that the number of women delivered in the hospital, at their own homes, and at the Leith branch during 1921 was 2,770; this was 176 fewer than in 1920, but it was far above the total for any other year, and further the number of cases confined in the hospital itself showed an increase of about 100. The number (2,770) was about 30 per cent. of all the births in Edinburgh and Leith during 1921. The number of beds for mothers in the institution was now 93. The report further indicated increased attendances both at the antenatal clinics and in the venereal diseases department. The new cases at the antenatal clinics numbered 816 and the revisits 1,582; at the V.D. clinics the number of new cases was 138 and of revisits 1,053; and 150 deliveries had taken place in the V.D. department. The Lord Provost, in his speech, referred to these numbers and reminded the audience that the hospital rendered valuable service in connexion with the maternity and child welfare services conducted by the Public Health Committee of the Town Council and also in the treatment of venereal diseases, which was another development of municipal public health activity.

Child Welfare Institute for Scotland.

Reference was made in the JOURNAL of April 22nd (p. 658) to a conference held in Edinburgh in regard to the establishment of a child welfare institute for Scotland, for the establishment of which the trustees of the Carnegie United Kingdom Trust had offered £40,000. A draft constitution and scheme of organization presented at that conference provoked considerable discussion and criticism. Professor Munro Kerr of Glasgow said that he believed that it was not possible to conduct an institute of the kind on £1,500 a year, as had been said, and contribute anything to science. The other medical representatives who were present took no part in the discussion, which was mainly financial, but there was a free expression of opinion among them that the objects sought for in the institute might be obtained by a strengthening of existing resources. On May 17th a subcommittee of the Edinburgh Town Council considered a letter from the secretary of the Carnegie United Kingdom Trust stating that the trustees had come to the conclusion that the proposals submitted were not upon the lines which they contemplated when the offer of £40,000 was made; they were of opinion further that the financial prospects of the scheme submitted were far from satisfactory, and intimated that the original offer of £40,000 was now withdrawn.

Royal Alexandra Infirmary, Paisley.

Large extensions are to be made to the Royal Alexandra Infirmary, Paisley, by the trustees of the late Mr. Peter Coats of Paisley, and it was stated at the recent annual meeting of the infirmary that the expenditure would amount to "several tens of thousands of pounds." The proposed extensions comprise six blocks of buildings, including three two-story blocks consisting of ward sisters' rooms, a block containing an electro-cardiograph department, another devoted to doctors' and nurses' dining-rooms, etc., and an important block containing two large electrical rooms, waiting-rooms, new operating theatre, and other accommodation; two new massage rooms are also to be arranged for separately.

Central Midwives Board.

At the recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, there were 103 successful candidates out of 112 who submitted themselves for examination. At a special meeting of the Board for the hearing of penal cases three midwives were cited for various breaches of the rules, and were found to be generally incapable of carrying them out; their certificates were directed to be cancelled and their names removed from the roll. In the case of another midwife found guilty of breaches of the rules sentence was postponed for reports from the local supervising authority, at the end of three and six months respectively, regarding her conduct and methods of practice in the meantime. Failing satisfactory reports being received, her name was instructed *ipso facto* to be removed from the roll.

Correspondence.

STATISTICS OF PUBLIC HEALTH.

SIR,—In his interesting third Milroy lecture, published in your columns on May 13th, Dr. Greenwood attributes to me the opinion that the statistician's "place is in the propagandist rather than in the research department of the public health service."

It is always difficult to summarize another's opinion or argument without quotation, and on this occasion Dr. Greenwood has failed to express accurately my stated views, thus making it desirable to ask you to insert the following quotations from the American address to which he refers:

"In their present stage of development in most communities vital statistics form an excellent servant but a bad master for the health officer. They have been invaluable in stimulating" [this may be by propaganda] "and in guiding public health effort, and especially in directing attention to the areas of excessive . . . mortality" [this is research followed by attempts at administrative control].

It is true that I then proceeded to warn against conclusions based on statistics of general and constitutional diseases in view of the imperfections and changes of medical certification, and added, "we need to bear in mind the necessary limitations of statistical inferences." I cannot, I assume, ask you to insert my entire paragraph on infant mortality from the *Journal of the American Statistical Association*, which Dr. Greenwood has not succeeded in summarizing accurately, but it appears necessary to quote the following extract from that paragraph:

"Did we possess quantitative knowledge of the value of each factor influencing infantile health and disease, and were we able to measure the extent of action of each factor, it would be possible to assess the relative importance of each factor concerned in producing or preventing infantile sickness and mortality. But we usually cannot do this."

Apart from the last short sentence of this quotation, it appears to coincide with Dr. Greenwood's own views.

I welcome the opportunity to make this statement, as it gives me the occasion to emphasize the real burden of the remarks to which Dr. Greenwood alluded. Statistics can have no greater value than that of the data on which they are based, however skilfully they are used, and if statistics of dubious quality point in one direction and physiological and pathological knowledge in another, the health officer will have no doubt as to his right road. No one reading carefully my address will fail to appreciate the great importance attached in it to the intensive study of vital statistics for research in the hope of improving administration, and not primarily for publicity purposes.—I am, etc.,

Shalford, Surrey, May 15th. ARTHUR NEWSHOLME.

"ALASTRIM" OR "PARASMALLPOX."

SIR,—I thank Dr. Garrow for the courtesy of his letter which appeared in your issue of May 13th (p. 780). I am not sure, from a perusal of it, whether he considers "alastrim" a separate disease or merely a variant of small-pox. In the second paragraph of his letter he distinctly states that it is a separate entity, but in the last paragraph he seems to refute this, and suggests that the real nature of the disease is still in doubt.

An article by W. C. Rucker, M.D., of the United States Public Health Service, which appeared in the *Medical Officer* of January 28th, 1922, gives a lucid and succinct description of "alastrim." In that article the writer defines the disease as "an acute febrile, easily communicable disease, closely resembling small-pox, as a mitigated aberrant form of which, from a public health standpoint, it must be regarded." Again and again throughout the article the author reiterates his

conviction that the disease is merely a variant of small-pox; and when he comes to diagnosis he makes the significant statement: "From the viewpoint of public health, 'alastrim' should always be diagnosed as small-pox." Judging from the description given in the article, "alastrim" so closely resembles small-pox in all its clinical characteristics that to make a differential diagnosis between the two would be a matter of extreme difficulty.

In addition to this clinical similarity, the diseases are said to resemble each other in their reactions to vaccination. A note appended to Dr. Rucker's article gives the results of certain inoculation tests undertaken in the United States by Leake and Force, which seem to prove that the two diseases affect monkeys and rabbits in a manner entirely similar. The last paragraph of the note gives the conclusions of the two workers and reads as follows: "The fact that definite immunity to vaccinia is produced by previous inoculations with 'alastrim' is additional evidence of the essential identity of 'alastrim' with small-pox."

I cannot see that Dr. Garrow is entitled to draw an analogy between "alastrim" and paratyphoid fever, because whilst a definite etiology has been worked out for the latter, that of the former, as of small-pox, is still obscure.

With such conclusive evidence of the identity of the two diseases, there seems to be no good reason why we should continue to recognize "alastrim" as a separate disease and accord it a distinctive designation. The dictionary of medicine is sufficiently confounded already with names without adding others which are entirely superfluous. This is not a time for confusing issues; rather is it a time for clear thought and direct action, because knocking at the nation's door at this very moment is what may prove to be one of the most serious epidemics of small-pox which has ever assailed the population of these isles.—I am, etc.,

Leeds, May 17th. J. JOHNSTONE JERVIS.

ETIOLOGY AND TREATMENT OF DIABETES.

SIR,—Dr. Renshaw and Mr. Fairbrother appear to have missed the point of my criticism. In any investigation into intestinal fermentation it surely is of prime importance to take into consideration the dietetic history of patients and controls. These essential clinical facts are neglected by them. It is easy to show by an example how erroneous may be any conclusions formed by examination of the faeces alone. For example, if we feed tuberculous patients on raw meat we find that tapeworm infection is very common amongst them and tapeworms are recognized in the faeces. If now an observer discovered tapeworms in 60 per cent. of tuberculous patients and in no controls, would he be justified in suggesting to a learned profession that tapeworms were the cause of tuberculosis? Yet he would have just as good reason as your contributors have for assuming the etiological rôle of *B. amyloclasticus*. The necessity for detailed dietetic histories is emphasized by this example, because the tapeworms would persist, if untreated, long after the patient had resumed normal diet. Categorical statements without such details are of no value, and I suggest that it is very unscientific to omit them from the article in order not to obscure the "presentation of the more scientific details." The whole essence of scientific experiment is that the conditions are controlled. In this case it is evident that the conditions were not controlled as regards that most important item in intestinal fermentation—namely, diet.

This is an unfortunate divorce of clinical medicine from the laboratory. It only tends to increase the "big, booming, buzzing confusion" which surrounds the subject of diabetes, and which Allen claims, with justice, to have helped to dissipate. The other points raised are of minimal importance in view of the lack of control.—I am, etc.,

Sheffield, May 21st. A. E. BARNES.

SIR,—I have certainly not had the opportunity of seeing the results of fermentation *in vitro* of pure cultures of *B. amyloclasticus*, but I am quite ready to accept the statement made by Dr. Renshaw and Mr. Fairbrother, that certain intestinal organisms exercise beneficial restraining influences over the vigorous action of that bacillus. It is, I believe, owing to a deficiency of such organisms in the intestinal contents that they have been able to isolate *B. amyloclasticus* with comparative ease from the faeces of patients suffering from diabetes. This deficiency probably arises from the alterations in the digestive processes which occur in diabetes. It has long been an established fact that the character of the intestinal flora is largely dependent upon the nature of the food in health, and that in disease it is also modified by variations in the secretions of the alimentary tract and by the extent to which the digestion of various food materials is interfered with. The examinations I have made during the past fifteen years of hundreds of specimens of faeces from all types of glycosuria and diabetes have shown that definite chemical alterations in the intestinal contents occur which would account for the presence of an abnormal flora. Certain of these alterations are found in all cases of typical diabetes, and probably explain why a particular type of organism should be a constant feature; others occur only in certain types of glycosuria, but are characteristic of that type. At one time I carried out extensive bacteriological investigations on the faeces in diabetes and only abandoned the work when I satisfied myself that the variations from the normal that were found could be explained in the manner indicated.

Although it is true that Koch's postulates have not been satisfactorily complied with in every disease in which the etiological agent is known, failure has always been due to special conditions, and it has usually been only after repeated unsuccessful attempts that the agent in question has been accepted as the causative factor on overwhelming clinical and experimental evidence of other kinds. The mere fact that scientific proof is costly or laborious is hardly a valid excuse for no attempt being made to fulfil established conditions of research, and for the premature publication of incomplete observations. Had Dr. Renshaw and Mr. Fairbrother confined their paper to a statement of the facts they have observed, and been content to draw attention to the striking similarity of the substances produced by the fermentative activity of *B. amyloclasticus* to the abnormal products occurring in diabetes, no exception could have been taken to it; but when they proceeded to "cut the Gordian knot of diabetes" with an imperfectly tempered knife forged from a diminutive amount of material, and claimed to have solved at one blow a problem which has occupied the attention of numerous experienced observers and experimenters during the past half-century, it became necessary to ask for rigid proof of such a claim.

It is an easy way out of a difficulty to avoid the facts that do not fit in with one's preconceived views; but I think that if Dr. Renshaw and Mr. Fairbrother will "ruminate" upon the questions, which they have not attempted to answer, raised in my previous letter, and will also consider the evidence that diabetes is not a disease, but a symptom complex which can be produced in a variety of ways, they will realize that the problems of its etiology and treatment are not as simple as they appear to imagine.—I am, etc.,

London, W., May 20th. P. J. CAMMIDGE.

"SYMPTOMLESS HAEMATURIA."

SIR,—In Mr. Burgess's excellent lecture on symptomless haematuria, published in the JOURNAL of May 20th, there is one point upon which he touches about which it would be interesting to get further information. I refer to positive evidence on microscopic examination of the urine in cases of renal tumour. In what percentage may such evidence be expected?

In two cases recently under my care—one of a malignant papilloma of the renal pelvis, with a small secondary deposit in the cortex of the kidney, and the other of a carcinoma of the upper half of the kidney involving the pelvis—microscopic examination of the urine revealed the presence of groups of epithelial cells, presumably of neoplastic origin. In both these cases haematuria was the only symptom, and cystoscopic examination was the only means of determining the site of the lesion, no enlargement of the kidney being discernible even under an anaesthetic.

Can reliance be reasonably placed on the presence and character of such epithelial cells in the urine sufficient to justify (1) a positive diagnosis of tumour; (2) a diagnosis between a malignant tumour and a simple papilloma? If so, then in such a case when a diagnosis of malignant renal tumour has been made, although the kidney on inspection may reveal no confirmatory evidence, it is surely better to do a primary nephrectomy rather than a preliminary exploratory nephrotomy, with its attendant risk, slight though that may be, of implanting malignant cells in the tissues of the wound.—I am, etc.,

Norwich, May 22nd. A. J. BLAXLAND.

DETOXICATED VACCINES.

SIR,—I observe that Dr. David Thomson (p. 796) attributes the toxicity of "detoxicated" or residual vaccines to the presence of a small amount of "unaltered toxic germs."

A few months ago a certain commercial concern issued broadcast a pamphlet dealing with these vaccines in which they were pleased to notice my work and to seal it with their approval. The anonymous author then proceeded to state that it was easy to see why I had reported that toxic effects could be produced by these vaccines—the imperfection of my method of preparation allowed a small number of unaltered germs to escape detoxication. This admirable clarity of vision is not vouchsafed to us all.

Twelve months ago I published in this journal an account of the vaccines, and pointed out that many of the organisms do not dissolve but swell in an alkaline solution and contract in an acid, from which one may infer that water can pass through the cell membrane. Such being the case, it is absolutely certain that nascent oxygen can do so. The action of this last substance was described.

I also showed that a residual vaccine heated in the autoclave was every whit as potent as one which had not been heated—a fact which disposes of the contention that thermolabile substances such as toxins are present in an autoclaved vaccine, and necessitates a search in some other direction to find the cause of the toxicity. My method of sterilization is based upon this resistance to heat, and enables one to use the safe and certain method of steam under pressure—namely, fifteen minutes' exposure to a temperature of 120° C. If the "unaltered germ" theory of toxicity is correct it follows that many of the common non-sporing bacteria are unaffected by this degree of heat. The patent absurdity of this needs no elaboration.

There is ample evidence that many bacterial substances, other than exotoxins and endotoxins, are toxic, but there is none to show that the products of bacteria can produce immunity against the whole organism and be at the same time absolutely non-toxic. The fact that they may act as efficient antigens proves nothing. I never heard that cholesterolized heart muscle was either phophylactic or curative in syphilis.—I am, etc.,

Manchester, May 20th. C. E. JENKINS, M.R.C.S., L.R.C.P.

NITROUS OXIDE AND OXYGEN.

SIR,—Dr. Holme Henderson's paper on this subject read before the Scottish Society of Anaesthetists and reported in the JOURNAL of May 13th (p. 763) will, I trust, revive the enthusiasm which the success of this method of anaesthesia in France and at military hospitals at home provoked in 1917 and 1918.

The current misconceptions about nitrous oxide and oxygen as a general anaesthetic are mainly of two types. According to some surgeons it gives unconsciousness, but not the relaxation needed for most abdominal work; other operators say the same, but add that when it does it is merely when employed as a camouflage for ether or chloroform.

As an anaesthetist and a patient I venture to agree fully with Dr. Holme Henderson's conclusions—namely, that any case, even a gall bladder case, can be successfully anaesthetized with it, though, of course, occasional blowing over or through ethanesal may be needed. I can with emphasis bear testimony to the unpleasant after-effects of ether and the difference when I had nitrous oxide and oxygen with a little ether. My experiences are still vivid, so sympathy for all fellow creatures who may have to take an anaesthetic makes me urge its extended employment.

Figuratively, nitrous oxide and oxygen may be said to have got over the footlights, in spite of the spectre of want of relaxation, notwithstanding even, perhaps, the lack of skill of some of its early administrators. There is no doubt that even the wisdom of Solomon can be made to look like folly by the accident of failure.

As the writer of the paper says, a proper apparatus is needed, with sight feed and fine adjustment valves, so that there is absolute control of the amount of oxygen and gas and a means of at will blowing over or through jacketed ethanesal. Geoffrey Marshall's apparatus has the advantage of portability. I usually employ one I made in 1917; it was described in the *Lancet* of July 13th, 1918, and shown previous to that at the Royal Society of Medicine.

A preliminary narcotic of morphine and atropine, warming the gases, and bubbling over or through ethanesal adds greatly to the success; a very little of the latter is, as a rule, required. Of course the last word has not by any means been spoken: if the *plus* pressure theatre advocated by Dr. Leyton is provided, the good nature with which this method is now received will be absolutely without the slice of lemon that is noticeable among some of its unamiable critics.—I am, etc.,

CHARLES T. W. HIRSCH, M.R.C.S.,
Anaesthetist, Samaritan and other Hospitals.

London, S.W., May 15th.

THE GENERAL PRACTITIONER AND THE HOSPITALS REPORT.

SIR,—I am still unable to discover in the Hospitals Report a definition of the word "voluntary." In fairness to the Chairman of the Hospitals Committee I shall quote paras. 6 and 7.

"6. The Association records its belief that the voluntary method of administration of the voluntary hospitals of the country is to the advantage of the public, medical science, and the medical profession, and that it should be maintained."

"7. The Association maintains that the essence of the voluntary hospital system is the independent and voluntary management and that this is not necessarily related to the conditions of service of the medical staff."

Mr. Harman asks what is to be said to those who assert that these paragraphs are too definite, and I quite sympathize with him in his difficulty in answering these objectors.

It may be that more hangs or will hang on the interpretation of the word "voluntary" than is contemplated at the moment. For instance, what is to prevent an approved society or association of societies from opening a voluntary hospital for its members? After all, we are much more concerned with the conditions of service of the medical staffs, to which "it is not necessarily related."

With regard to contract practice Mr. Harman has entirely missed the point. It is not that hospitals will undertake the insurance risk of hospital benefit, but that the staffs will. Para. 22a states that—

"payments for tariff patients should be for work done based on a tariff of fees, making full allowance for . . . payment of medical staff."

May I ask what a typical tariff would be like? Would it, for instance, give varying fees for different operations or the fee per visit of the "honorary" physician? If it is a "work-done" tariff it certainly ought to, but I can hardly imagine that this will be the case. It does not matter, however, because para. 33 nullifies the tariff by stating that—

". . . a *percentage* of all such payments should be passed into a fund which is at the disposal of the honorary medical staff."

If this is not contract practice it is something worse. Mr. Harman meets my contention that contracts and tariffs are to be made by hospitals without consulting the staffs by saying that para. 39 provides for representation of the profession on the management. It does not. It merely says that it is desirable, and even if there were representation that is not enough. The British Medical Association exercises the right to approve or disapprove of remuneration in every other department of public practice and it most certainly should retain that right in this department.

Mr. Harman will forgive me for complaining that the bulk of my criticism is still unanswered, and for his and others' benefit I shall repeat it categorically.

1. The hospitals are to be no longer voluntary in the sense that they are entirely supported by voluntary contributions.
2. They will open their doors to persons with incomes up to £350 per annum, persons who can, either directly or by insurance, pay an adequate fee for treatment.
3. They may make financial arrangements with public bodies of all kinds for the services of the medical staff.
4. There is no provision for adequate remuneration for such services.
5. Patients may be admitted under financial arrangements who might as well be treated at home or in an institution which has not made a financial arrangement.
6. Free choice of doctor for tariff patients is not even considered.

I maintain that this scheme constitutes unfair competition with private practice, both general and specialist, and its adoption by the British Medical Association would be a grave blunder.—I am, etc.,

Bury, Lancs., May 21st. J. C. TURNBULL.

ASYLUM METHODS.

SIR,—In a recent article you published the recommendations made to the Board of Control by a subcommittee chosen from the members of the Quaker Medical Society. May I go a step farther back and recall the remarks recorded in the annual report of the said Board for the year 1920,

on an inquiry by three of the Commissioners in respect of allegations made concerning certain asylums by four attendants, and made public in the journal *The Friend* of May 28th, 1920? The inquiry took place on September 13th, 1920.

This investigation was perhaps unique as regards such inquiries in that the witnesses were not patients whose evidence could be brushed aside as "delusionary," but free and independent men who had had exceptional opportunities of becoming acquainted with the interior of asylums.

The allegations, as set out in the Board of Control report, were as follows:

1. That the medical attendance, supervision, and treatment were most inadequate; that the classification of patients was imperfect; that there was no segregation of tuberculous cases.
2. That the patients were not fed well.
3. That they were not clothed well; that there was a deficiency of overcoats; that the patients had to use for drying their faces and hands towels which had been used already by other patients; and that, on the Commissioner's visits, the best of everything in the way of towels and brushes were brought out.
4. That due respect and care were not bestowed on the bodies of patients dying in the institution.
5. That cold baths were given as punishment by the attendants without the knowledge of a doctor.
6. That on numerous occasions one of the witnesses had seen patients struck on the abdomen and kidneys.
7. That patients were unnecessarily placed in seclusion rooms and made to wear strong canvas suits.

The findings of the Commissioners were: That "the allegations were in part justified." The report of this interview concludes:

"The allegations and our inquiry served a useful purpose, for they brought to light certain deficiencies and undesirable practices."

In view of the seven allegations given in the Board's report as "in part justified," let us hope that the real facts of the position will be shortly elucidated in the only manner which can convey the full truth to the public—namely, by the appointment of a Royal Commission.—I am, etc.,

S. E. WHITE, M.B.

London, E., May 22nd.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.

SIR,—We would draw the attention of the profession to a meeting to be held at 1, Wimpole Street, London, W.1, on Friday, June 9th, 1922, at 2.30 p.m., when it will be proposed that a "Medical Society for the Study of Venereal Diseases" be formed.

The number of those specially engaged on work in connexion with venereal diseases is ever increasing, and it is believed that the institution of a medical society for the study of venereal diseases would supply a widely felt need. Local divisions of the society will be formed and meetings will be held at which subjects of clinical, pathological, and administrative interest will be discussed. It is proposed to publish a journal if and when this is found to be practicable.

The society will doubtless attract medical practitioners engaged particularly in venereal diseases work, laboratory workers, and medical officers of health, but membership will be open to any medical practitioner who may be interested. While it is hoped that as many as possible of those interested will attend the meeting on the above date, it will be of assistance if those who contemplate becoming members of the society will communicate their intention now to the interim secretary.

The aim of the society—the uniting for the advancement of knowledge and the promotion of the common interests of those engaged in the study of venereal diseases—is one which we would cordially commend to the profession, and we would ask for it the wide measure of support which, in our opinion, it deserves.—We are, etc.,

HAROLD W. BARBER, C. H. BROWNING, J. C. BUCKLEY, E. T. BURKE, A. CAMBELL, E. R. T. CLARKSON, WILFRID FOX, A. MEARNS FRASER, L. W. HARRISON, MATTHEW HAY, FRANCIS S. KIDD, DAVID LEES, MARY LISTON, C. H. MILLS, A. LOUISE MCILROY, W. WYNDHAM POWELL, HENRY SEMON, ALEXR. MALCOLM SIMPSON, KENNETH WALKER, DAVID WATSON, ALEXANDER WILSON, FREDERICK P. WILSON, ROBERT FORGAN (interim secretary).

Middle Ward District Offices, 30, Renfield Street, Glasgow May 17th.

Obituary.

W. D. SPANTON, F.R.C.S.,

Consulting Surgeon, North Staffordshire Infirmary.

WE regret to announce the death, in his 82nd year, of Mr. William Dunnett Spanton, F.R.C.S., which took place on May 13th at Ripon Lodge, Hastings, where he had lived in retirement during the last few years. Mr. Spanton had had a busy and successful career as a surgeon in the Midlands, and he was an outstanding personality in the life of North Staffordshire for over half a century.

Mr. Spanton was born in September, 1840; he was the son of a schoolmaster, and was educated at Loughborough Grammar School and the Middlesex Hospital. In his autobiography, which, under the title of *The Story of My Life*, was published in 1920 (reviewed in our columns on July 16th, 1921, p. 78), Mr. Spanton gave some interesting reminiscences of his apprenticeship to a Loughborough surgeon in the late fifties, and of his life as a medical student in London in the early sixties. At the Middlesex Hospital, in his time, Alexander Shaw, Campbell de Morgan, Charles H. Moore, and Mitchell Henry were the surgeons, Alex. P. Stewart, S. J. Goodfellow, and H. Thompson the physicians, and Dr. Frere was physician-accoucheur; the latter, however, soon resigned, and Dr. Priestley (afterwards Sir William Priestley) took his place. Mr. Spanton lived for a time as assistant to a Dr. Brown of Clerkenwell, and there met Douglas Jerrold, G. A. Sala, and other men of note.

Mr. Spanton took the diploma of M.R.C.S.Eng. and the L.S.A. in 1862; he became F.R.C.S.Edin. in 1881, and F.R.C.S.Eng. in 1898. After serving as a house surgeon at Sheffield (where one of his experiences was the bursting of the Bradford reservoir) his long connexion with the Potteries began by his appointment in 1864 to be house-surgeon at the North Staffordshire Infirmary, Etruria. He was afterwards on the active honorary staff for thirty-four years; he resigned the post of surgeon and was appointed consulting surgeon in 1903. For many years he was the leading surgeon in North Staffordshire, where he was regarded as the doyen of his profession. Through his efforts many improvements were made in the buildings and in the organization of the North Staffordshire Infirmary, which brought it into a leading place among modern provincial hospitals.

He was a very old member and office-bearer of the British Medical Association, and for many years regularly attended its annual meetings. He was an energetic member of the Parliamentary Bills Committee of the Association, to which he was appointed in 1900, and was a member of Council from 1901 to 1908. For some years he was a member of the executive committee of the North Staffordshire Division; he was chairman of that Division in 1904 and president of the Staffordshire Branch in 1912. In 1908 he was vice-president of the Section of Obstetrics and Gynaecology at the annual meeting at Sheffield, and in 1911 he was vice-president of the Section of Surgery at Birmingham. As he showed in his autobiography, he had many pleasant memories of the annual meetings, and "often learned a good deal, met many friends, visited many delightful places under the pleasantest auspices; in short, always seemed to come back invigorated." Mr. Spanton enjoyed attending international medical congresses at home and abroad, and he made many holiday voyages to different parts of the world. He was the last president of the old British Gynaecological Society before it was amalgamated with the Royal Society of Medicine, and he contributed many articles, chiefly on gynaecological and surgical subjects, to this and other medical and scientific journals. Since 1892 he had been a justice of the peace for the county of Stafford, and he was president of the Staffordshire Nurses Institution, president of the North Staffordshire Field Club (which he founded), and consulting surgeon to Longton Hospital.

Mr. Spanton was an accomplished and distinguished surgeon, a man of many-sided culture, of impetuous disposition, but of a very kind and generous heart. He was married in 1867, but his wife and his three sons died some time ago; he is survived by his three daughters.

DUGALD CHARLES BREMNER, M.B., C.M.

DR. DUGALD CHARLES BREMNER, the surgeon of the *Egypt*, was the son of Dr. Bruce Allan Bremner of Edinburgh, and was born in 1869. He was educated at Craigmount School and Edinburgh University, graduating M.B., C.M. in 1892; he had been president of the Royal Medical Society, Edinburgh, and had held resident posts at Edinburgh Royal

Infirmary and the East Riding Asylum, Beverley. He was formerly in practice at Peebles, and was visiting physician to Peeblesshire Fever Hospital.

Dr. ARNOLD CHAPLIN, Medical Inspector to the P. and O. Company, writes: On behalf of the P. and O. Company I am requested to express their deep regret at the death of Dr. Bremner, the surgeon to the ss. *Egypt*, who lost his life in the disaster to that vessel on May 19th. Dr. Bremner joined the medical service of the company three years ago, after a distinguished career in the army during the war, where he held the rank of major. He soon proved himself to be exceptionally endowed with the qualities necessary for the successful performance of the duties of a medical officer on board ship. His promotion was rapid and in a very short time he was appointed to the *Egypt*, remaining there in medical charge until the ship was lost. His medical ability was considerable, and his high character as a man rendered him popular with all with whom he came into contact. He was one of the best medical officers the company has ever had, and the P. and O. Company desire to place on record their appreciation of his work while engaged in their service.

THERE has recently passed away in Lisburn, co. Antrim, Dr. GEORGE ST. GEORGE, a man with many outstanding characteristics and of great ability. For over fifty years he was surgeon to the County Antrim Infirmary, having served his apprenticeship there under the renowned surgeon Dr. Thompson, who was known to express very high commendation on the deftness and ability with which Dr. St. George performed his duties. His work at the infirmary during all these years was the chief interest and delight of his life. He achieved very remarkable surgical successes, and his powers of diagnosis were of a high order. His knowledge of prescribing and pharmacology was wide, and his quick resource in emergencies was often a means of saving life. His sense of duty was intense, and any cause to which he put his hand never failed to get his best. He held many other appointments, one of which was physician to the Thompson Memorial Home for Incurables, the inmates of which loved to see his cheery face and hear his laugh. He was recently mayor of the town of Lisburn, and was a member of its council nearly all his working life. He was much sought after in connexion with the social life of the town and neighbourhood, and was a faithful member of the local Branch of the British Medical Association and of the Ulster Medical Society, taking an active part in their management. Dr. St. George possessed deep religious principles, worshipping in the Protestant Cathedral, and was an ardent temperance advocate. In short, he was one of the old school of Christian gentlemen, an able physician and surgeon, and we leave him to the rest which he so nobly and faithfully earned.

THE death took place, on May 13th, of Dr. JOHN ROBERT JONES of Penrhyn Deudraeth, Merionethshire; he had recently undergone a serious operation. Dr. Jones received his medical education at Anderson College, Glasgow, and qualified with the diplomas of L.R.C.P., L.R.C.S.Edin., and L.R.F.P.S.Glas. in 1889. He was a justice of the peace for the county of Merionethshire, medical officer to the local infant welfare centre, and for thirty years had been medical officer to the Deudraeth district of the Festiniog Union. He was an old member of the British Medical Association. He is survived by his widow and two daughters.

WE regret to record the sudden death, on May 13th, of Dr. JOHN ALFRED LAYCOCK, of Sabden, near Blackburn, at the age of 61. Dr. Laycock received his medical education at Manchester, and qualified with the diploma of L.R.C.P.I. in 1885. He had been in practice at Sabden for some thirty-seven years, and had gained a high place in the esteem of the inhabitants by his genial personality and his generous patronage of all good causes in the district. He was a member of the parish council, a manager of the local council school, a great lover of music, and an antiquary of more than local reputation. He had long been a member of the British Medical Association.

WE regret to announce the death of Dr. BENJAMIN STRACHAN, which took place suddenly at his residence in Morningside, Edinburgh, on May 8th. Dr. Strachan was born in Fyvie, Aberdeenshire, in 1842, and in 1856 entered Marischal College, Aberdeen, where he graduated M.A. at the early age of 17. He then studied theology at St. Andrews and Glasgow, with the intention of becoming a missionary, but he altered his plans and began the study of medicine in Glasgow, where in 1877 he graduated M.B., C.M. In the following year he married the daughter of the late Dr. James Smith of Sunderland, and settled there in practice. Owing to the strain of heavy work he was obliged to retire from practice in 1898. His kindness, gentleness, and professional ability made him beloved and respected by all who came in contact with him. Dr. Strachan was a man of uncommon intellectual gifts and deep religious convictions. A profound Hebrew and Greek scholar, he remained a keen student to the end. He is survived by his widow, three sons, and three daughters.

IN giving an account of the funeral of Sir HENRY DAVY last week it ought to have been said that among the very large number of medical men present were all the members of the staff of the Devon and Exeter Hospital.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Gilbert Blane Medals.

THE Gold Medal founded by the late Sir Gilbert Blane, Bt., to be given biennially, is awarded by the Director-General of the Medical Department of the Navy and the Presidents of the Royal College of Physicians and the Royal College of Surgeons. The medal for this year has been awarded to Surgeon Commander Sidney W. Grimwade, O.B.E., M.B., he having obtained a first-class certificate at the examination held in February last for promotion to the rank of Surgeon Commander.

Three Blane medals which remained unadjudged owing to the absence of promotion examinations during the war have been awarded to Surgeon Commander Reginald St. G. S. Bond, M.B., F.R.C.S., M.R.C.P., D.P.H., Surgeon Commander Robert W. B. Hall, Surgeon Commander Sheldon F. Dudley, O.B.E., M.D., D.P.H., for the distinguished professional zeal and ability displayed by these officers throughout their service career.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 19th the Public Orator read an address which it is proposed to present to the Earl of Balfour, Chancellor of the University, conveying the Senate's appreciation of his work as British representative at the Washington Conference, and their congratulations on his appointment as a Knight of the Order of the Garter and on his elevation to the peerage.

The honorary degree of D.Sc. was conferred on Baron Anatole von Hugel, late Curator of the Museum of Archaeology and of Ethnology.

The following medical degrees were conferred:

M.D.—W. Thomas.
M.B., B.CH.—E. S. Orme, N. S. Hewitt.
M.B.—A. O. Courtis.

UNIVERSITY OF LONDON.

THE Bucknill Scholarship of the value of 135 guineas, and two Entrance Exhibitions of the value of 55 guineas each, tenable in the Faculty of Medical Sciences at University College, London, will be awarded on the results of an examination beginning on Tuesday, June 27th. Entry forms, which can be obtained from the Secretary of University College, Gower Street, W.C.1, must be sent in not later than June 6th.

ST. THOMAS'S HOSPITAL.

The following scholarships and prizes have been awarded for 1922: Peacock Scholarship, M. W. P. Hudson; Grainger Testimonial Prize, D. A. Davies; Hadden Prize, C. V. Patrick and C. P. R. Gibson (equal); Mead Medal, J. F. Hackwood; Toller Prize, J. F. Hackwood; Cheselden Medal, C. V. Patrick.

UNIVERSITY OF MANCHESTER.

THE University Court on May 17th resolved to confer the D.Sc. degree upon Professor H. B. Dixon. The Vice-Chancellor announced the approaching resignation of Professor H. R. Dean from the chair of Physiology and Professor Dixon from the chair of Chemistry.

In October next the fiftieth anniversary of the amalgamation of Owens College with the Manchester School of Medicine will be celebrated.

UNIVERSITY OF LIVERPOOL.

AT a congregation of the University of Liverpool held on May 19th the degree of D.Sc. (*honoris causa*) was conferred upon Sir Charles Sherrington, G.B.E., M.D., Waynflete Professor of Physiology in the University of Oxford and President of the Royal Society.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT the meeting of the College held on May 19th Lieutenant-Colonel Sir Joseph Fayrer, Bt., on behalf of the officers of the 2nd Scottish General Hospital, presented to the College a silver bowl as a memento and a permanent record of the services rendered by its Fellows during the great war.

The following having passed the requisite examinations were admitted Fellows:

H. N. Bethune, R. B. Boston, E. D. D. Dickson, May E. Glancey, L. W. Innes, D. A. Laird, S. F. Lee, D. A. Miller, K. P. R. Pillai, S. H. Pugh, T. H. Richmond, B. Thangamma, E. Watson-Williams, L. A. Wilson, Captain O. Wilson, I.M.S., J. M. Wishart.

The Bathgate Memorial Prize, consisting of bronze medal and microscope, has, after a competitive examination in Materia Medica, been awarded to Mrs. Grace Laubscher, and the Ivison Macadam Memorial Prize in Chemistry, consisting of bronze medal and set of books, has been awarded to Mr. D. B. Cruickshank.

Medical News.

SIR CLIFFORD ALLBUTT, Regius Professor of Physic, Cambridge, has been elected a Foreign Honorary Member of the American Academy of the Arts and Sciences (Boston, Mass.).

DR. GEORGE REID, O.B.E., who retired recently from the post of medical officer of health for Staffordshire (and who has been appointed consulting medical officer of health for that county), was the recipient on May 21st of a handsome presentation from the district medical officers of health in Staffordshire. Dr. Reid, who is a former President of the Staffordshire Branch of the British Medical Association and of the Society of Medical Officers of Health, was not only the first medical officer of health of Staffordshire, but the first county medical officer of health to be appointed in the kingdom. He is the author of the well-known textbook *Practical Sanitation*, now in its twentieth edition. During the war he served as a divisional sanitary officer, with the rank of Major R.A.M.C.(T.).

THE 196th dinner of the Edinburgh University Club of London was held at the Connaught Rooms on May 17th, with Lord Dunedin of Stenton in the chair, when among the members and guests present were the Spanish Ambassador, the Lord Chancellor, the Marquis of Dufferin, Lord Justice Atkin, Sir G. Lenthal Cheatle, Sir Henry Craik, Sir James Dundas Grant, Sir John Goodwin, Sir Robert Hill, Sir W. G. Macpherson, Dr. Nathan Raw, M.P., Sir Arthur Sloggett, Sir James Purves Stewart, and Sir John Thomson Walker. Lord Dunedin, in proposing the toast of "Alma Mater and the Edinburgh University Club of London," spoke of his own student days at Edinburgh when he was a member of the Speculative Society with Robert Louis Stevenson and Lord Guthrie. The toast of "The Guests" was proposed in an amusing speech by Dr. Walter Jagger. In response H.E. Señor Don Merry del Val made an eloquent plea for the study of Spanish literature at the Scottish Universities, where it was neglected; their countries had many resemblances, for on the hills of both blue-bonneted men played bagpipes, while their universities were alike in being democratic institutions. Lord Birkenhead and Dean Inge also responded. The health of the Chairman was proposed by Mr. Alexander Macmorran, K.C. Graduates of Edinburgh University who wish to join the club are invited to write to the honorary secretary, Dr. R. S. Frew, 73, Wimpole Street, W.1.

THE fifth lecture in the series of post-graduate lectures arranged by the Fellowship of Medicine will be given on Tuesday, May 30th, at 5 p.m., in the West Lecture Hall of the Royal Society of Medicine, 1, Wimpole Street, W., by Sir Arbuthnot Lane, on the subject of stasis. The lectures are open to members of the medical profession.

A CIRCULAR has been issued by the Minister of Health stating that he has decided to recognize as official certificates for the purpose of the Public Health (Foreign Meat) Regulations certain labels and marks (which are illustrated and described in the circular) issued by the governments of the United States of America and the Argentine Republic.

A PRESENTATION was made recently at Sheerness to Dr. George Aldridge, who has retired temporarily from practice. Dr. Aldridge was in practice at Sheerness since 1903, and was formerly part-time medical officer of health for the district; he held other public medical appointments and was the founder of the St. John Ambulance Brigade in Sheerness.

THE annual dinner of the Federation of Medical and Allied Services will be held at the Café Royal, Regent Street, London, W.1, on Wednesday, June 7th, at 7.15 p.m. Sir Berkeley Moynihan, the President, will take the chair, and Sir Alfred Mond, Minister of Health, and his predecessor, Dr. Addison, are expected to be present. Further particulars can be obtained from the Medical Director, 12, Stratford Place, London, W.1.

ON April 13th the retail business which the Society of Apothecaries of London has hitherto carried on at Apothecaries' Hall, Water Lane, E.C., was closed, and the society has handed over to the firm of Cooper, Son, and Co. the prescription books, formulae, and special preparations.

THE House and Library of the Royal Society of Medicine will be closed from Saturday, June 3rd, to Monday, June 5th, both days inclusive.

THE annual dinner of the Harveian Society of London will be held at the Café Royal on Thursday, June 15th, at 7.30 p.m.

THE annual general meeting of the Lebanon Hospital for Mental Diseases will be held at the rooms of the Royal Society of Medicine on Thursday, June 1st, at 4 p.m.

THE Harrogate Corporation has issued a handbook giving information for visitors in regard to the mineral waters and other attractions of the place. Copies may be obtained, free of charge, from the Publicity Manager, Royal Baths and Wells, Harrogate.

MR. W. HARRISON MARTINDALE, Ph.D., has prefixed to the new price list of the firm of W. Martindale a note in which he appeals to the profession to support British chemical and pharmaceutical industries. He states that the Safeguarding of Industries Act, 1921, though a step in the right direction, only attacks the merest fringe of the subject.

A MEETING of the International Council of Nurses opened in Copenhagen on May 22nd. The delegates, who were the guests of the Danish Council of Nurses, were welcomed by the President, Mrs. Kenny Tscherning. The Council was founded in 1899 by federation of the National Councils of Nurses of Great Britain and Ireland, the United States of America, and Germany, to which the National Associations of Canada, New Zealand, India, Holland, Denmark, and Finland have since affiliated.

A GROUP of American surgeons is to make a clinical tour to Europe this summer under the direction of Dr. James L. Smith of Chicago. They have arranged to spend three days in Liverpool (June 19th to 21st), three in Edinburgh, two in Leeds, and four in London. The party—the members of which will be accompanied by their families—will then proceed to the Hague, Paris, Switzerland, Italy, Tyrol, Bavaria, Dresden, and Berlin; they expect to reach New York on their return journey on August 26th.

THE Council of the Medical Officers of Schools Association has decided to suspend the issue of the journal, *School Hygiene*, until such time as the cost of printing falls. In order that members may be provided with the papers read before the association's meetings and be kept in touch with the subject of school hygiene, a yearbook will be issued at the end of 1922.

UNDER the auspices of the National Association for the Prevention of Infant Mortality and National Baby Week Councils a series of conferences on infant welfare will be held at Carnegie House, 117, Piccadilly, London, from Monday, July 3rd, to Wednesday, July 5th, culminating in a public meeting in the council chamber of the Caxton House, Westminster. Discussions will take place on "The position of the district nurse and midwife in relation to public health services in rural areas," "Rickets," "How far should treatment be undertaken at an infant welfare centre?" and other subjects. Arrangements will be made for conducted tours by motor car to a number of typical maternity and child welfare institutions of various kinds in London. Particulars and tickets may be had on application to the honorary secretary, Miss J. Halford, Carnegie House, 117, Piccadilly, W.1.

MESSRS. BAIRD AND TATLOCK have sent us a copy of the 1922 edition of their *Standard Catalogue (Vol. II) of Physiological, Histological, and Biochemical Apparatus and Instruments*; in it are included autoclaves, sterilizers, surgical instruments, polygraphs, sphygmomanometers, ophthalmoscopes, and other instruments, and models of the eye, brain, etc., for teaching purposes. The catalogue has been prepared, we are informed, with the help of a number of physiologists; it appears to be very comprehensive and it is well illustrated.

THE *Internationales Centralblatt für Laryngologie, Rhinologie und verwandte Wissenschaften*, founded by the late Sir Felix Semon in 1884, has ceased publication with the March number, and will reappear under the title of *Centralblatt für Hals- Nasen- und Ohren-heilkunde*. Dr. Georg Finder, who succeeded Sir Felix Semon in 1908, will continue to be editor of the new journal.

A BRONZE memorial tablet has been erected in an operating theatre dedicated to Dr. J. Marion Sims in the Woman's Hospital, New York. The inscription on the tablet reads as follows: "Sims Operating Theatre, dedicated to the memory of James Marion Sims, M.D., LL.D., 1813–1883, the Founder of the Woman's Hospital and of Modern Gynecology."

THE firm of John Bell and Croyden, Ltd., incorporating Arnold and Sons, have acquired the lease of No. 52, Wigmore Street, which adjoins the existing premises at 50 and 50A, Wigmore Street. It will be used as showrooms for hospital furniture, surgical instruments, orthopaedic appliances, and invalid furniture.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"T. I. M.," who suffers from bronchitis and emphysema, has been advised to remove from Yorkshire to some place where the climate will not aggravate his condition. He asks for suggestions for a suitable place either at home or abroad.

TREATMENT OF CRAMP.

"A.E." suggests to "M.D.Edin." (BRITISH MEDICAL JOURNAL, p. 744, May 6th, 1922) that during the cramps every effort should be made to use the opposing muscles—for example, if the cramp be in the calf, try perseveringly to straighten the knee and dorsiflex the foot, and so on. Surely, he says, this is physiological and sound advice. "A.E." further remarks: Acting on this idea I have relieved abdominal spasms by trying to induce instant retching or vomiting by finger tip in the fauces. Unfortunately, when the pain has become intense, the reflex action of vomiting will not be induced. In that case drinking any harmless fluid in large quantity should be followed by a further effort at retching or vomiting. Aspirin often gives relief quickly. Probably "M.D." will find fomentations of sodium salicylate very useful for his joints.

INCOME TAX.

"F. T." is a medical officer in one of the Crown Colonies. He is returning to settle in practice in England, and will then be entitled to a gratuity of £1,000 and, further, four and a half months' pay, amounting to £360 odd, payable through the Crown Agents.

*** From the date of his return to the United Kingdom "F. T." will become a British resident for income-tax purposes, and we are of opinion that he would be liable to tax on the £360 as accruing after he takes up that status, whether it is paid into his own bank account or dealt with otherwise. As regards the gratuity, we should regard that as earned during his colonial service, and therefore as a receipt of capital, not income, so far as this country is concerned.

"H. W. G." inquires as to the replacement allowance for a car.

*** The only amount properly allowable is the amount spent on maintaining the professional equipment; where an improved type of car is purchased the expenditure covers something more than mere maintenance. We advise "H. W. G." to accept the figure of £350 for the purpose of the claim.

"CROSSENS" bought a new 15.9-h.p. car in 1914 for £290 and sold it for £250 in 1921, when he bought a new 20-h.p. car of the same make for £688; a 16-h.p. car of the same make would then have cost £663.

*** On the facts as stated the replacement cost allowable is £663 less £250—that is, £413.

'P."—The circumstances are briefly as follows: P and Q were in partnership on an equal-share basis, though Q's fees accounted for two-thirds of the cash receipts. Q died, and his share of the practice has been sold to R, and P and R now carry on their work as separate practitioners and are assessable as such. Our correspondent asks how the assessments should be based.

*** P and R are assessable on the basis of the average profits in the past three years earned in the practices as now constituted—that is, on the facts stated R's assessment would be twice that of P. The basis of the payment made by R is material as evidence of the share taken over, but is not conclusive; if he paid on a "half" basis for "two-thirds" of the practice he is not thereby entitled to say that necessarily he took over only one-half. We may add that if for any specific cause the profits of either P or Q fall short of the sum assessed an adjustment can be claimed at the end of the year of assessment.

LETTERS, NOTES, ETC.

THE "SALIVARY TEST" AS A ROUTINE.

DR. A. A. WARDEN (Paris) writes: I remember—now, alas! more than twenty-five years ago—that my chief, Sir Hector Cameron, once asked me, in one of his inimitable asides, if I knew the real translation of the phrase, γνῶθι σεαυτόν (know thyself), and on my answer in the negative, said, "Test your urine." The little jest has often come to my mind, but recently I have been wondering if a still more significant rendering might not be "Test your saliva." I am well aware that much research, though of little pathological value, has been spent on the chemical and bacteriological examination of the saliva, and I shall not weary your readers by references to the increasing amount of literature on the importance of pyorrhoea, pus pockets, and infection generally in the mouth as a causal factor in general systemic diseases—arthritis, gastro-intestinal affections, nephritis, etc. My object in this note is to ask why examination of the saliva is not as routine a procedure as that of any other body fluid. It is a simple matter to rinse the mouth thoroughly two hours or so after the last meal and then collect the saliva for the next thirty minutes or until the test tube contains from 10 to 20 c.cm. Mastication means traumatism, and the maximum amount of pus production appears about two hours later. Even a casual inspection will reveal, with surprising frequency and in mouths that seem models of the dentist's triumph in the shape of shining golden crowns and bridges and inlays, the presence of both blood and pus. For a generation the dentist has prided himself on his conservative work and his skill in salvaging dead teeth—now more and more regarded as dangerous sources of infection. A child's mouth free from caries, or an adult's with teeth and gums in good condition, should show, in 20 c.cm. of saliva, a precipitate in twenty-four hours of only a few centigrams of débris. In many mouths that appear clean such a test may well show several grams of yellowish white precipitate of red blood cells, leucocytes, food débris, mucus, and microbes. It is no easy matter to estimate the amount of pus present or to measure its pathological significance, but the naked-eye test alone—for the use of which I am indebted to my friend, Dr. Rodolfo Robles—is of great value.

DRUG ADDICTION.

DR. W. V. FURLONG (Dublin), in the course of a letter on this subject, writes: Your article on opium and cocaine consumption in the different countries of the world is very important, though of course we cannot do without these drugs when necessary, but the enormous amount used secretly shows that the number of drug takers in the world must be greatly on the increase. It is often a wonder to me that so many people who preach against the inordinate use of opium and cocaine should not include also in their condemnation tobacco and alcohol, which are equally pernicious drugs. There are a far greater number of people who exceed the safe limit in tobacco and alcohol than in any other drug known, and the effect of overdoses of either are much worse than opium or cocaine. Everyone in the medical world knows the effects of chronic nicotine poisoning on the arteries, heart, eyes, etc., and its pernicious effects upon every organ in the body, and still no effort has been made to stop this growing evil, although its victims must number fully 1000 for every one from opium or cocaine. Every doctor has daily to treat cases of atheroma, heart disease, amblyopia, etc., which frequently can be traced to the excessive use of tobacco. The effects of the excessive use of alcohol on the brain, liver, heart, and lungs are too well known by all doctors to require recapitulating here.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, 33, and 34 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *199*.

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All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 423, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.